

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: RUECKES, et al.

Application No.: 10/774,682

Filed: February 9, 2004

For: Nanotube Films and Articles

Group Art Unit: 2811

Examiner: To Be Assigned

Attorney Docket No.: 112020.129 US2 NAN-6

CERTIFICATE OF MAILING (37 C.F.R. § 1.8 a)

I hereby certify that this correspondence is being deposited with the United States Postal Service under 37 CFR 1.8a and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on November 24, 2004.

By: July M. Mufal
Tina M. Dougal

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §§ 1.56 and 1.97-98, and M.P.E.P. §609, Applicants hereby enclose Forms PTO-1449 that includes publications that have previously been cited in a prior patent application Serial No. 10/128,118 filed April 23, 2002, now U.S. Patent No. 6,706,402 issued March 16, 2004, from which the above application claims priority under 35 U.S.C. §120. With the exception of the following list of publications identified below, pursuant to 37 C.F.R. § 1.98(d), no further copies of the previously cited art are enclosed.

New U.S. Patents/Publications Not Previously Listed (Copies not required and not enclosed herewith)

US1DOCS 4821175v1

0159833 Mill.

4/15/2005

Application No. 10/774,682 RUECKES, et al. Page 2

US-2004/0181630	6
US-2004/0175856	
US-3,970,887	
US-5,216,631	
US-6,100,109]
US-6,443,901	
US-6,541,309	
US-6,586,965	
US-6,611,033	
US-5,161,218	
US-5,909,624	
US-6,643,165	
US-6,784,028	
US-6,706,402	
US-6,443,901	
US-6,333,016	
US-6,354,133	
US-6,515,339	5

Enclosed Publications

	A1	Winslow, Troy. "Advanced+ Boot Block World's First 0.18-Micron Flash Memory." Flash Products Group. April 17, 2000.						
,	A2	"Double Sided 4Mb SRAM Coupled Cap PBGA Card Assembly Guide." International Business Machines Corp. (IBM), 1998.						
	A248	Dai, Hongjie. "Controlled Chemical Routes to Nanotube Architectures, Physics, and Devices." <i>The Journal of Physical Chemistry B</i> (1999); 103: 11246-11255.						
	A249	Colomer, JF., at al., "Characterization of Single-Walled Carbon Nanotubes Produced by CCVD Method." Chemical Physics Letters (2001); 345, 11-17.						
	A251	Cassell, A., et al., "Large Scale Synthesis of Single-Walled Carbon Nanotubes." <i>The Journal of Physical Chemistry B</i> (1999); Vol. 103, No. 22: 6484-6492.						
	A258	Homma, Y., et al., "Growth of Suspended Carbon Nanotube Networks on 100nm-Scale Silicon Pillars." <i>Applied Physics Letters.</i> (2002); Vol. 81 No. 12, 2261-2263.						
	A260	Kong, J., et al., "Syntheses of Individual Single-Walled carbon Nanotubes on Patterned Wafers." <i>Nature</i> (1998); 395: 878-881.						
	A263	Peigney, A., et al., "A Study of the Formation of Single-and-Double-Walled carbon Nanotubes by a CVD Method." <i>The Journal of Physical Chemistry B</i> (2001); 105: 9699-9710.						
7	A264	Franklin, N., et al., "Integration of Suspended Carbon Nanotube Arrays into						

milita 40h

US1DOCS 4821175v1

Application No. 10/774,682 RUECKES, et al. Page 3

.(0					

-	Electronic Devices and Electroechanical Systems." Applied Physics Letters (2002); Vol. 81 No. 5, 913-905.			
A267	Reuckes, T., et al., "Carbon Nanotube-Based Nonvolatile Random Access Memory for Molecular Computing." <i>Science</i> , vol. 289, 94-97, July 7, 2000			
Soh, et al., "Integrated Nanotube Circuits: controlled growth and contacting of single-walled carbon nanotubes", Applied Physics I August 2, 1999, Vol. 75, No. 5, 627-629				
A276	Snow, E.S. et al., "Random Networks of Carbon Nanotubes as an Electronic Material." Applied Physics Letters, March 31, 2003, Vol. 82, No. 13, 2145-2147.			
A277	Bernholc et al., "Mechanical and Electrical Properties of Nanotubes", Annu. Rev. Mater. Res., 32 (2002) 347.			

Enclosed Foreign Patents/Applications

EP 0296716 A3

EP 0665187 B1

EP 0947466 A1

EP 1061040 A1

EP 1061043 A1

It is respectfully requested that the information above be expressly considered and that the publications be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

As this paper is being filed prior to the issuance of a first Office Action on the merits, and pursuant to 37 C.F.R. § 1.97(b)(3), no fee is believed to be due. In the event a fee is due, the Commissioner is authorized to charge any fee deficiency or credit any overpayment to Deposit Account No. 08-0219.

Dated: November 24, 2004

Respectfully submitted,

Peter M. Dichiara Registration No. 38,005 Attorney for Applicants

Wilmer Culter Pickering Hale and Dorr LLP

60 State Street

Boston, Massachusetts 02109

(617) 526-6466 (telephone)

(617) 526-5000 (facsimile)

USIDOCS 4821175v1

Approved for use through 07/31/2006. OMB 0551-0331 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO	Complete if Known			
SIPE.	Application Number	10/774,682		
O P INFORMATION DISCLOSURE	Fillng Date	February 9, 2004		
STATEMENT BY APPLICANT	First Named Inventor	Rueckes et al.		
MAR 0 2 7005 (Use as many sheets as necessary)	Art Unit	2811		
<u>•</u>	Examiner Name	TBA		
Sheet . 1 of 1	Attorney Docket Number	112020.129US2 NAN-6		

		U	. S. PATENT DOCU	MENTS	
Examiner	Cite	Document Number	Publication Date	Name of Patentee or Applicant	Pages, Columns, Lines,
Initials*	No.'	Number-Kind Code ^{2(0 krosn)}	MM-DD-YYYY	of Cited Document	Where Relevant Passages or Relevant Figures Appear
-	<u>' </u>	US-6,495,258	12/17/2002	Chen et al.	
9		US-6,443,901	09/03/2002	Fraser, J.D.	
	<u> </u>	US-6,361,861	03/26/2002	Gao et al.	
	<u> </u>	US-6,322,713	11/27/2001	Choi et al.	
		US-6,031,711	02/29/2000	Tennent et al.	
100		US-5,346,683	09/13/1994	Green et al.	
		US-			

		FOR	EIGN PATENT DOC	UMENTS	
Examiner Cite Document Number			Publication Date	Name of Patentee or Applicant	Pages, Columns, Lines,
Initials*	No.¹	Number-Kind Code ^{2(# known)}	MM-DD-YYYY	of Cited Document	Where Relevant Passages or Relevant Figures Appear
	V				

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
\			•
			
	L		

Examiner Date Signature Considered

EXAMINER: Initial of reference considered, whether or not chatton in a informatice with MEP 609. Draw line through citation if not in conformatice and not considered include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). See Kinds Codes of USPTO Patent Documents at throughout or MPEP 901.04. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is established to take 2 hours to complete, including gathering. preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no person are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for Complete if Known PO THAT Application Number 10/774,682 INFORMATION DISCLOSURE Filing Date February 9, 2004 STATEMENT BY APPLICANT First Named Inventor RUECKES, et al. (Use as many sheets as necessary) Art Unit 2811 **Examiner Name** To Be Assigned Attorney Docket Number Sheet 01 1 112020.129US2 NAN-6

Initials* No.¹ title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. A280 Wolf, S., Silicon Processing for the VLSI Era, Volume 2 – Process Integration, Lattice Press, Sunset Beach, 1990, 189-191, 260-273 A281 Ajayan, P.M., et al., "Nanometre-Size Tubes of Carbon", Rep. Prog. Phys. 60 (1997) 1025-1062			NON PATENT LITERATURE DOCUMENTS	
volume-issue number(s), publisher, city and/or country where published. A280 Wolf, S., Silicon Processing for the VLSI Era, Volume 2 – Process Integration, Lattice Press, Sunset Beach, 1990, 189-191, 260-273 A281 Ajayan, P.M., et al., "Nanometre-Size Tubes of Carbon", Rep. Prog. Phys. 60 (1997) 1025-1062 Examiner	Examiner		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate),	•
volume-issue number(s), publisher, city and/or country where published. A280 Wolf, S., Silicon Processing for the VLSI Era, Volume 2 – Process Integration, Lattice Press, Sunset Beach, 1990, 189-191, 260-273 A281 Ajayan, P.M., et al., "Nanometre-Size Tubes of Carbon", Rep. Prog. Phys. 60 (1997) 1025-1062 Examiner	Initials*	No.1	title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s).	
A280 Wolf, S., Silicon Processing for the VLSI Era, Volume 2 – Process Integration, Lattice Press, Sunset Beach, 1990, 189-191, 260-273 A281 Ajayan, P.M., et al., "Nanometre-Size Tubes of Carbon", Rep. Prog. Phys. 60 (1997) 1025-1062			volume-issue number(s), publisher, city and/or country where published.	T ²
Lattice Press, Sunset Beach, 1990, 189-191, 260-273 A281 Ajayan, P.M., et al., "Nanometre-Size Tubes of Carbon", Rep. Prog. Phys. 60 (1997) 1025-1062				
Lattice Press, Sunset Beach, 1990, 189-191, 260-273 A281 Ajayan, P.M., et al., "Nanometre-Size Tubes of Carbon", Rep. Prog. Phys. 60 (1997) 1025-1062	60	A280	Wolf S. Silicon Processing for the VLSI Fra. Volume 2 - Process Integration	i
A281 Ajayan, P.M., et al., "Nanometre-Size Tubes of Carbon", Rep. Prog. Phys. 60 (1997) 1025-1062		7200	Lettice Broce Support Banch 1000 190 101 260 272	
(1997) 1025-1062 (1997) 1025-1062 Examiner		 	Lattice Fless, Suitset Beach, 1990, 169-191, 200-273	
(1997) 1025-1062 (1997) 1025-1062 Examiner				
Examiner	60	A281		
			(1997) 1025-1062	
		1		
		1		
		 		
		 		
	1	1		
		ļ		
		1		
				
	}	 		
		 		
				1
	Examiner Signature	M	Considered 4 / S	*

Signature

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MSP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 'Applicant's unique citation designation number (optional). 'See kinds Codes of USPTO Patent Documents at https://www.usito.gov or MPEP 901.04. 'Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 'For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 'Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 'Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.93. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is established to take 2 hours to complete, including gathering, operating and submitting the completed application form to the USPTO. Time will your depending upon the individual case. Any comments on the amount of time your

preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

OFF NOV 2		ORMATION			Docket Number Application Num 112020.129US2 10/774,66			
SARAT & TRA	\ <u>\E</u>	IN AN APPI se several shee			Applica SEGAL, Bren			
	Sheet	1	OF	40	Filing Date February 9, 2004	Group Art Unit 2811		

		U.S. Patent Do	cuments	
Examiner Initial	Document No.	Publication Date mm-dd-yyyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	US-5,346,683	09/13/1994	Green et al.	
	US-5,424,054	06/13/1995	Bethune et al.	
	US-5,456,986	10/10/1995	Majetich et al.	
	US-5,482,601	01/09/1996	Ohshima et al.	
	US-5,547,748	08/20/1996	Ruoff et al.	
	US-5,626,812	05/06/1997	Ebbesen et al.	
	US-5,716,708	02/10/1998	Lagow	
	US-5,753,088	06/19/1998	Olk	
	US-5,780,101	07/14/1998	Nolan et al.	
	US-5,903,010	05/11/1999	Flory et al.	
	US-5,925,465	07/20/1999	Ebbesen et al.	,
	US-5,928,450	07/27/1999	Russell	
	US-5,946,930	09/07/1999	Anthony	
	US-5,973,444	10/26/1999	Xu et al.	
	US-5,985,446	11/16/1999	Lagow	
	US-5,993,697	11/30/1999	Cohen et al.	
	US-6,031,711	02/29/2000	Tennent et al.	
	US-6,060,724	05/09/2000	Flory et al.	
	US-6,063,243	05/16/2000	Zettl et al.	
	US-6,083,624	07/04/2000	Hiura	
	US-6,105,381	08/22/2000	Ghoshal	
	US-6,136,160	10/24/2000	Hrkut et al.	
	US-6,146,227	11/14/2000	Mancevski	
	US-6,156,256	12/05/2000	Kennel	
	US-6,183,714 B1	02/06/2000	Smalley et al.	
Ç	US-6,203,814 B1	03/20/2001	Fisher et al.	
	US-6,203,864 B1	03/20/2001	Zhang et al.	
	US-6,221,330 B1	04/24/2001	Moy et al.	
600	US-6,231,744 B1	05/15/2001	Ying et al.	

	1,
EXAMINER	DATE CONSIDERE
	d dist
	7//5/-5
EXAMINER: Initial if citation is considered, whether	or per citation is in conformance with MI/EP § 609: Draw Line through
citation if not conformance and not considered. Include	

	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
IN AN APPLICATION (Use several sheets if necessary)				Applicant SEGAL, Brent M., et al.	
01 1				Filing Date	Group Art Unit
Sheet 2 OF 40			40	February 9, 2004	2811

		U.S. Patent Do	cuments	
Examiner Initial	Document No.	Publication Date mm-dd-yyyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	US-6,231,980 B1	05/15/2001	Cohen et al.	
40	US-6,239,547 B1	05/29/2001	Uemura et al.	
	US-5,196,396	03/23/1993	Lieber	
	US-5,252,835	10/12/1993	Lieber et al.	
	US-5,840,435	11/24/1998	Lieber et al.	
	US-5,897,945	04/27/1999	Lieber et al.	
	US-5,997,832	12/07/1999	Lieber et al.	
	US-6,036,774	03/14/2000	Lieber et al.	
	US-6,159,742	12/12/2000	Lieber et al.	
8	US-6,190,634 B1	02/20/2001	Lieber et al.	
	US-5,590,078	12/31/1996	Chatter	
3	US-5,799,209	08/25/1998	Chatter	
9	US-5,838,165	11/17/1998	Chatter	
	US-6,108,725	08/22/2000	Chatter	
ì	US-6,138,219	10/24/2000	Soman et al.	
	US-6,212,597 B1	04/3/2001	Conlin et al.	
į	US-6,237,130 B1	05/22/2001	Soman et al.	
	US-4,853,893	08/01/1989	Eaton, Jr. et al.	
	US-4,888,630	12/19/1989	Paterson	
3	US-5,198,994	03/30/1993	Natori	
	US-5,444,421	08/22/1995	Carroll et al.	
	US-5,479,172	12/26/1995	Smith et al.	
	US-5,517,194	05/14/1996	Carroll et al.	
	US-5,521,602	05/28/1996	Carroll et al.	
	US-5,533,061	07/02/1996	Smith et al.	
ā	US-5,553,099	09/03/1996	Carroll et al.	
	US-5,608,246	03/04/1997	Yeager et al.	
	US-5,626,670	05/06/1997	Varshney et al.	
	US-5,802,583	09/01/1998	Yeager et al.	

EXAMINER	DATE CONSIDERED 2015
EXAMINER: Initial if citation is considered, whether or not citat citation if not conformance and not considered. Include copy with	ion is in conformance with MeEP § 609: Draw Line through next communication to applicant.

	RMATION	N DISCLO		Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
IN AN APPLICATION (Use several sheets if necessary)				Applicant SEGAL, Brent M., et al.	
				Filing Date	Group Art Unit
Sheet 3 OF 40				February 9, 2004	2811
l					

		U.S. Patent Do		·
Examiner Initial	Document No.	Publication Date mm-dd-yyyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
es !	US-5,850,089	12/15/1998	Varshney et al.	
	US-5,850,231	12/15/1998	Orimoto et al.	
	US-6,025,618	02/15/2000	Chen	
	US-6,044,008	03/28/2000	Choi	
	US-6,128,214	10/03/2000	Kuekes et al.	
	US-6,159,620	12/12/2000	Heath et al.	
	US-6,198,655 B1	03/06/2001	Heath et al.	
	US-5,198,390	03/30/1993	MacDonald et al.	
	US-5,316,979	05/31/1994	MacDonald et al.	
	US-5,426,070	06/20/1995	Shaw et al.	
	US-5,640,133	06/17/1997	MacDonald et al.	
	US-5,719,073	02/17/1998	Shaw et al.	
	US-5,846,849	12/08/1998	Shaw et al.	
i	US-5,847,454	12/08/1998	Shaw et al.	
	US-5,878,840	03/09/1999	Tessum et al.	
	US-5,914,553	06/22/1999	Adams et al.	
	US-5,939,785	08/17/1999	Klonis et al.	
	US-6,051,866	04/18/2000	Shaw et al.	
	US-6,259,277 B1	07/10/2001	Tour et al.	
	US-5,640,343	06/17/1997	Gallagher et al.	
	US-5,650,958	06/22/1997	Gallagher et al.	
	US-5,793,697	08/11/1998	Scheuerlein	
	US-5,841,692	11/24/1998	Gallagher et al.	
1	US-5,930,164	07/27/1999	Zhu	
!	US-5,946,228	08/31/1999	Abraham et al.	
	US-6,052,263	04/18/2000	Gill	
	US-6,072,718	06/06/2000	Abraham et al.	
	US-6,104,633	08/15/2000	Abraham et al.	
	US-6,166,948	12/26/2000	Parkin et al.	

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not citat citation if not conformance and not considered, include copy with	

INFO	Subt. For, PTO-1449 INFORMATION DISCLOSURE			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
IN AN APPLICATION (Use several sheets if necessary)				Applica SEGAL, Bren	
				Filing Date	Group Art Unit
Sheet	4	OF	40	February 9, 2004	2811

		U.S. Patent Do	cuments	
Examiner Initial	Document No.	Publication Date mm-dd-yyyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
لط	US-6,219,212 B1	04/17/2001	Gill et al.	
	US-4,701,842	10/20/1987	Olnowich	
	US-4,985,871	01/15/1991	Catlin	
	US-5,184,320	02/02/1993	Dye	
	US-5,412,785	05/02/1995	Skruhak et al.	
	US-5,586,286	12/17/1996	Santeler et al.	
	US-5,608,888	03/04/1997	Purcell et al.	
	US-5,623,638	04/22/1997	Andrade	
	US-5,651,126	07/22/1997	Bailey et al.	
i i	US-5,652,856	07/29/1997	Santeler et al.	
	US-5,699,317	12/16/1997	Sartore et al.	
	US-5,271,862	02/24/1998	Sartore et al.	
	US-5,781,717	07/14/1998	Wu et al.	
	US-5,875,451	02/23/1999	Joseph	
	US-5,887,272	03/23/1999	Sartore et al.	
	US-6,038,637	03/14/2000	Berube et al.	
	US-6,049,856	04/11/2000	Bolyn	
	US-6,088,760	07/11/2000	Walker et al.	
i i	US-6,226,722 B1	05/01/2001	Shippy et al.	
3	US-6,233,665 B1	05/15/2001	Bolyn	
K.	US-5,444,651	08/22/1995	Yamamoto et al.	
	US-6,031,756	02/29/2000	Gimzewski et al.	
1	US-3,448,302	06/03/1969	Shanefield	
	US-4,845,533	07/04/1989	Pryor et al.	
	US-4,876,667	10/24/1989	Ross et al.	
	US-4,324,814	04/13/1982	Reichert	
1	US-4,378,629	04/05/1983	Bozlev et al.	
	US-4,495,511	01/22/1985	Yoder	
	US-4,510,016	04/9/1985	Chi et al	

EXAMINER (Section 1)	DATE CONSIDERED 4/5/05
EXAMINER: Initial if citation is considered, whether or not citat citation if not conformance and not considered. Include copy with	

<u> </u>	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
	N AN APF			SEGAL, Bren	
				Filing Date	Group Art Unit
Sheet	5	OF	40	February 9, 2004	2811
		- 1			

		U.S. Patent Do	cuments	
Examiner Initial	Document No.	Publication Date mm-dd-yyyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevan Figures Appear
W	US-4,673,474	06/16/1987	Ogawa	
	US-4,707,197	11/17/1987	Hensel et al.	
	US-4,758,534	07/19/1988	Derkits Jr. et al.	
	US-4,901,121	02/13/1990	Gibson et al.	
	US-4,903,090	02/20/1990	Yokoyama	
	US-4,939,556	07/03/1990	Eguchi et al.	
	US-5,010,037	04/23/1991	Lin et al.	
	US-5,032,538	07/16/1991	Bozler et al.	
	US-5,057,883	10/15/1991	Noda	
	US-5,089,545	02/18/1992	Pol	
	US-5,155,561	10/13/1992	Bozler et al.	
	US-5,168,070	12/01/1992	Luth	
	US-5,175,597	12/29/1992	Cachier et al.	
	US-5,290,715	03/01/1994	Pardya	
	US-5,453,970	09/26/1995	Rust et al.	
	US-5,475,341	12/12/1995	Reed	
	US-5,563,424	10/08/1996	Yang et al	
,	US-5,589,692	12/31/1996	Reed	
	US-5,739,057	04/14/1998	Tiwari et al.	
	US-5,747,180	05/05/1998	Miller et al.	
	US-5,751,156	05/12/1998	Muller et al.	
	US-5,847,565	12/08/1998	Narayanan	
	US-5,858,862	01/12/1999	Westwater et al.	
	US-6,038,060	03/14/2000	Crowley	
	US-6,069,380	05/30/2000	Chou et al.	
	US-6,495,258 B1	12/17/2001	Chen et al	
	US-6,445,006 B1	09/03/2002	Brandes, et al	
	US-6,144,481	11/07/2000	Kowarz, et al	
M	US-3,740,494	06/19/1973	Dunand et al.	

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not citat citation if not conformance and not considered. Include copy with	

	RMATION	N DISCLO		Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
IN AN APPLICATION (Use several sheets if necessary)				Applicant SEGAL, Brent M., et al.	
Sheet	6	OF	40	Filing Date February 9, 2004	Group Art Unit 2811
[

		U.S. Patent Do	cuments	
Examiner Initial	Document No.	Publication Date mm-dd-yyyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	US-4,524,431	06/18/1985	Haken et al.	
	US-3,892,890	07/01/1975	Watanabe et al.	
	US-4,694,427	09/15/1987	Miyamoto et al.	
	US-4,819,212	04/04/1989	Nakai et al.	
	US-4,853,893	08/01/1989	Eaton, Jr. et al.	
	US-4,888,630	12/19/1989	Paterson	
	US-4,947,226	08/07/1990	Huang et al.	
	US-4,979,149	12/18/1990	Popovic et al.	
	US-5,031,145	07/09/1991	Lever	
	US-5,051,956	09/24/1991	Burns	
	US-5,161,218	11/1992	Catlin	
14	US-5,198,994	03/30/1993	Natori	
	US-5,592,642	01/07/1997	Thomas	
	US-5,538,916	07/23/1996	Kuroi et al.	
	US-5,592,643	01/07/1997	Thomas	
1	US-5,909,624	06/1999	Yeager et al.	
	US-5,592,644	01/07/1997	Thomas	
	US-5,994,733	11/30/1999	Nishioka et al.	
	US-6,064,107	05/16/2000	Yeh et al.	
	US-6,048,740	04/11/2000	Hsu et al.	
	US-6,052,313	04/18/2000	Atsumi et al.	
	US-6,062,931	05/16/2000	Chuang et al.	
	US-6,052,313	04/18/2000	Atsumi et al.	
	US-6,044,008	03/28/2000	Choi	
	US-6,087,293	07/11/2000	Carnahan et al.	
	US-6,128,214	10/03/2000	Kuekes et al.	
	US-6,165,890	12/26/2000	Kohl et al.	
	US-6,177,703	01/23/2001	Cunningham	
	US-6,203,864	03/20/2001	Zhang et al.	

EXAMINER	DATE CONSIDERED 4/15/05
EXAMINER: Initial if citation is considered, whether or not citatic citation if not conformance and not considered. Include copy with	ion is in conformance with NPEP § 609 Draw Line through next communication to applicant.

Subt. For, PTO-1449 Application Number Docket Number 112020.129US2 10/774,682 **INFORMATION DISCLOSURE** NAN-6 IN AN APPLICATION Applicant SEGAL, Brent M., et al. (Use several sheets if necessary) Filing Date Group Art Unit OF 2811 Sheet 7 40 February 9, 2004

		U.S. Patent Doo	cuments	
Examiner Initial	Document No.	Publication Date mm-dd-yyyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	US-6,232,706	05/15/2001	Dai et al.	
	US-6,256,767	07/03/2001	Kuekes et al.	
	US-6,262,469	07/17/2001	Le et al.	
	US-6,300,205	10/09/2001	Fulford et al.	
	US-6,314,019	11/06/2001	Kuekes, et al.	
	US-6,320,428	11/20/2001	Atsumi et al.	
	US-6,322,713	11/27/2001	Choi et al.	
	US-6,325,909	12/04/2001	Li et al.	
	US-6,331,209	12/18/2001	Jang et al.	
	US-6,333,016	12/25/2001	Resasco et al.	
	US-6,346,413	02/12/2002	Fodor et al.	
	US-6,348,295	02/19/2002	Griffith et al.	
	US-6,348,700	02/19/2002	Ellenbogen et al.	
	US-6,350,488	02/26/2002	Lee et al.	
	US-6,354,133	03/12/2002	Yedur et al.	
	US-6,358,756	03/19/2002	Sandhu et al.	
	US-6,361,861	03/26/2002	Gao et al.	
	US-6,362,073	03/26/2002	Kim	
	US-6,380,434	04/30/2002	Chiang	
	US-6,400,088	06/04/2002	Livingston et al.	
	US-6,400,091	06/04/2002	Deguchi et al.	
	US-6,406,776	06/18/2002	D'Evelyn	
	US-6,417,606	07/09/2002	Nakamoto et al.	
	US-6,420,726	07/16/2002	Choi et al.	
	US-6,421,271	07/16/2002	Gogl et al.	
	US-6,422,450	07/23/2002	Zhou et al.	
	US-6,423,583	07/23/2002	Avouris et al.	
	US-6,443,901	09/03/2002	Fraser	
9	US-6,426,134	07/30/2002	Lavin et al.	

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not citation if not conformance and not considered, include conv. with	

*	RMATION	N DISCLO		Docket Number 112020.129US2 NAN-6	Application Number 10/774,682	
IN AN APPLICATION (Use several sheets if necessary)				Applicant SEGAL, Brent M., et al.		
Sheet	8	OF	40	Filing Date February 9, 2004	Group Art Unit 2811	
	-			7		

		U.S. Patent Doc	cuments	
Examiner Initial	Document No.	Publication Date mm-dd-yyyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	US-6,515,339	02/04/2003	Shin et al.	
	US-6,643,165	11/04/02003	Segal et al.	
.	US-6,706,402	03/16/2004	Rueckes et al.	
	US-6,784,028	08/31/2004	Rueckes et al.	
	US-2001/0023123 A1	09/20/2001	Kim	
	US-2001/0023986 A1	09/27/2001	Mancevski	
	US-2002/0055010 A1	05/9/2002	Gao et al.	
	US-2002/0061441 A1	05/23/2002	Ogura et al.	
	US-2002/0068170 A1	06/06/2002	Smalley et al.	
	US-2002/0081380 A1	06/27/2002	Dillon et al.	
	US-2002/0081787 A1	06/27/2002	Kohl et al.	
	US-2002/0088938 A1	07/11/2002	Colbert et al.	
	US-2002/0090331 A1	07/11/2002	Smalley et al.	
	US-2002/0092983 A1	07/18/2002	Colbert et al.	
	US-2002/0092984 A1	07/18/2002	Colbert et al.	
	US-2002/0096634 A1	07/25/2002	Colbert et al.	
	US-2002/0098135 A1	07/25/2002	Smalley et al.	
	US-2002/0102193 A1	08/01/2002	Smalley et al.	
	US-2002/0102194 A1	08/01/2002	Smalley et al.	
	US-2002/0102196 A1	08/01/2002	Smalley et al.	
	US-2002/0102353 A1	08/01/2002	Mauthner et al.	
	US-2003/0124325	07/03/2003	Rueckes et al.	
	US-2003/0165074	09/04/2003	Segal et al.	
	US-2003/0199172	10/23/2003	Rueckes et al.	
	US-2004/0085805	05/06/2004	Segal et al.	
	US-2004/0159833	08/19/2004	Rueckes et al.	
	US-2004-0175856	09/09/2004	Jaiprakash et al.	
	US-2004/0181630	09/16/2004	Jaiprakash et al.	
100	US-2001/0004979	06/28/2001	Han et al.	

EXAMINER	DATE CONSIDERED 4/5/65
EXAMINER: Initial if citation is considered, whether or not citat	

	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
IN AN APPLICATION (Use several sheets if necessary)				Applica SEGAL, Bren	
Sheet	9	OF	40	Filing Date February 9, 2004	Group Art Unit 2811
				1	

		U.S. Patent Do	cuments	
Examiner Initial	Document No.	Publication Date mm-dd-yyyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
6	US-2002/0125805	09/12/2002	Hsu	
A	US-2002/0130353	09/19/2002	Lieber et al.	
•	US-2002/0160111	10/31/2002	Sun et al.	
	US-2002/0172639	11/12/2002	Horiuchi	
	US-2002/0173083	11/21/2002	Avouris et al.	
	US-2002/0175323	11/28/2002	Guillom et al.	
	US-2002/0175390	11/28/2002	Goldstein et al	
	US-2002/0179434	12/5/2002	Dai et al.	
	US-5,973,444	10/26/1999	Xu et al.	
	US-6,128,214	10/3/2000	Keukes et al.	
4	US-6,159,620	12/12/2000	Heath et al.	
	US-6,187,823	02/13/2001	Haddon et al.	
P H	US-6,198,655	03/06/2001	Heath et al.	
1	US-6,232,706	05/15/2001	Dai et al.	
ę	US-6,250,984	06/21/2001	Jin et al.	
	US-6,322,713	11/27/2001	Choi et al.	
	US-6,350,488	02/26/2002	Lee et al.	
	US-6,407,443	06/18/2002	Chen et al	
	US-6,413,487	07/02/2002	Resasco et al.	
	US-6,432,740	08/13/2002	Chen	
	US-6,495,116	12/17/2002	Herman	
8	US-6,515,339	02/04/2003	Shin et al.	
	US-6,518,156	02/11/2003	Chen et al	
	US-6,566,983	05/20/2003	Shin	
4	US-6,574,130	06/03/2003	Segal et al.	
	US-2002/0112814	08/22/2002	Hafner et al.	
	US-2003/0004058	01/02/2003	Li et al.	
T	US-2003/0021966	01/30/2003	Segal et al.	
K	US-2003/0124837	07/03/2003	Rueckes, et al.	

	RMATION	N DISCLO		Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
IN AN APPLICATION (Use several sheets if necessary)				Applica SEGAL, Bren	
Sheet	10	OF	40	Filing Date February 9, 2004	Group Art Unit 2811
Onco:	10		40		2811

		U.S. Patent Do	cuments	
Examiner Initial	Document No.	Publication Date mm-dd-yyyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
Cru	US-2003/0108480	06/2003	Baker et al.	
	US-3,970,887	07/1976	Smith et al.	
	US-5,216,631	06/1993	Sliwa	
	US-6,100,109	08/2000	Melzner et al.	
	US-6,277,318	08/21/2001	Bower	
	US-6,333,016	12/2001	Resasco et al.	
	US-6,354,133	03/2002	Yedur et al:	
	US-6,443,901	09/2002	Fraser	
	US-6,541,309	04/2003	Chen	
	US-6,586,965	07/2003	Kuekes	
4	US-6,611,033	08/2003	Hsu et al.	

	· >
EXAMINER	The state of the s

DATE CONSIDERED

	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682	
1	N AN APF			Applica SEGAL, Bren		
Sheet	11	OF	40	Filing Date February 9, 2004	Group Art Unit 2811	

	Foreign Patent Documents						
Examiner Initial	Document No.	Publication Date mm-dd-yyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear			
EX	EP 0 296 716 A3	12/28/88	Energy Conversion Devices Inc.				
	EP 0 613 130 A1	08/31/1994	NEC Corporation				
(EP 0 665 187 A1	08/02/1995	Director General of the Agency of Industrial Science and Technology				
	EP 0 665 187 B1	12/29/1997	Director General of the Agency of Industrial Science and Technology				
	EP 0 945 402 A1	09/29/2000	Research Institute of Innovative Technology for the Earth				
	EP 0 947 466 A1	10/06/1999	Compagnie Generale D'Automatisme				
	EP 0 989 579 A3	03/29/2000	Lucent Technologies Inc. et al.				
	EP 1 046 613 A2	10/25/2000	Iljin Nanotech Co. Ltd.				
	EP 1 052 520 A1	11/15/2000	Hitachi Europe Limited				
	EP 1 054 249 A1	11/22/2000	Daiken Chemical Co. Ltd.				
	EP 1 059 266 A3	12/20/2000	Iljin Nanotech Co. Ltd.				
	EP 1 061 040 A1	12/20/2000	Iljin Nanotech Co. Ltd.				
	EP 1 061 043 A1	12/20/2000	Iljin Nanotech Co. Ltd.				
	EP 1 061 044 A1	12/20/2000	Institute of Metal Research of the Chinese Academy of Science				
	EP 1 061 544 A1	12/20/2000	Iljin Nanotech Co. Ltd.				
	EP 1 061 555 A1	12/20/2000	Iljin Nanotech Co. Ltd.				
7	EP 1 069 206 A2	01/17/2001	Lucent Technologies Inc.				
M	EP 1 072 693 A1	01/31/2001	Iljin Nanotech Co. Ltd.				

EXAMINER DATE CONSIDERED

1	RMATION			112020.129US2 NAN-6	Application Number 10/774,682
	N AN APP several she			Applica SEGAL, Brer	
(Use several sheets if necessary)				Filing Date	Group Art Unit
Sheet	t 12 OF 40		40	February 9, 2004	2811

		Foreign I	Patent Documents	
Examiner Initial	Document No.	Publication Date mm-dd-yyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
5	EP 1 100 106 A2	05/16/2001	Lucent Technologies Inc.	
	EP1 100 297 A2	05/16/2001	Electrovac Fabrikation Elektrotechnischer Spezialartikel Gesellschaft M.B.H.	
	EP 0 296 716 A3	05/24/1988	Energy Conversion Devices, Inc.	
	EP 0 665 187 B1	01/20/1995	Director General of the Agency of Industrial Science and Technology	
	WO 96/38410	12/05/1996	Forskningscenter RISO	
	WO 97/09272	03/13/1997	William Marsh Rice University	
	WO 97/43473	11/20/1997	Hyperion Catalysis International, Inc.	
	WO 98/26871	06/25/1998	Eidgenössische Technische Hochschule Zürich	·
	WO 98/39250	09/11/1998	William Marsh Rice University	
	WO 98/48456	10/29/1998	Massachusetts Institute Of Technology	
	WO 99/06618	02/11/1999	Hyperion Catalysis International, Inc.	
1	WO 99/47570	09/23/1999	University of Rochester	
	WO 99/48810	09/30/1999	Silverbrook	
	WO 99/58748	11/18/1999	Applied Science, Inc.	
	WO 99/65821	12/23/1999	The Research Foundation Of State University Of New York	

EXAMINER	DATE CONSIDERED
Can	4/15/08
EXAMINER: Initial if citation is considered, whether or not citatic citation if not conformance and not considered. Include copy with	

	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682	
	N AN APF			Applicant SEGAL, Brent M., et al.		
Sheet	13	OF	40	Filing Date February 9, 2004	Group Art Unit 2811	

	Foreign Patent Documents							
Examiner Initial	Document No.	Publication Date mm-dd-yyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear				
6	WO 01/03208 A1	01/11/2001	President And Fellows Of Harvard College					
	WO 95/02709 A2	01/26/1995	President And Fellows Of Harvard College					
	WO 95/02709 A3	01/26/1995	President And Fellows Of Harvard College					
	WO 96/41043	12/19/1996	President And Fellows Of Harvard College					
5	WO 97/31139	08/28/1997	President And Fellows Of Harvard College					
	WO 98/39251	09/11/1998	President And Fellows Of Harvard College					
	WO 00/44094	07/27/2000	University of South Carolina					
	WO 00/48195 A1	8/17/2000	Board Of Trustees Operating Michigan State University					
	WO 98/42620	10/01/1998	Japan Fine Ceramics Center					
	WO 00/09443	02/24/2000	The Board Of Trustees Of The Leland Stanford Junior University					
	WO 00/17101	03/20/2000	William Marsh Rice University					
	WO 00/19494	04/06/2000	Xidex Corporation					

EXAMINER	DATE CONSIDERED_
	4/15/05
EXAMINER: Initial if citation is considered, whether or not citat citation if not conformance and not considered. Include copy with	

	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682	
IN AN APPLICATION (Use several sheets if necessary)				Applicant SEGAL, Brent M., et al.		
Sheet	14	OF	40	Filing Date February 9, 2004	Group Art Unit 2811	

		Foreign 1	Patent Documents	
Examiner Initial	Document No.	Publication Date mm-dd-yyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
6	WO 00/48195 C2	8/17/2000	Board Of Trustees Operating Michigan State University	
	JP 11-011917	01/19/1999	Canon, Inc.	
	EP 0 688 618 A2	08/23/1995	IMR S.r.l.	
	EP 0 269 225 A2	06/01/1988	Energy Conversion Devices, Inc.	
	EP 0 269 225 A3	06/01/1988	Energy Conversion Devices, Inc.	
	EP 0 315 392 A2	05/10/1989	Energy Conversion Devices, Inc.	
	EP 0 315 392 A3	05/10/1989	Energy Conversion Devices, Inc.	
	WO 00/08650	08/03/1999	Motorola, Inc.	
	WO 00/09443	07/02/1999	The Board Of Trustees Of The Leland Stanford Junior University	
	WO 00/63115	04/14/2000	Commonwealth Scientific And Industrial Research Organisation	
	WO 00/73204 A1	05/25/2000	Commonwealth Scientific And Industrial Research Organisation	

		/	1			
EXAMINER	DATE CONSIDERED					
	71	15/	03			
EXAMINER: Initial if citation is considered, whether or not citation is in conformance with MPEP § 60f. Draw Line through citation if not conformance and not considered. Include copy with next communication to applicant.						

	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
	IN AN APPL e several shee			Applic SEGAL, Brer	
				Filing Date	Group Art Unit
Sheet	15	OF	40	February 9, 2004	2811
]	

Foreign Patent Documents							
Examiner Initial	Document No.	Publication Date mm-dd-yyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear			
Pal	WO 01/03208 C2	06/30/2000	President And Fellows Of Harvard College				
	WO 01/18246	08/28/2000	The Trustees of Princeton University				
	WO 01/23303	08/03/2000	Electrovac, Fabrikation Elektrotechnischer Spezialartikel Gesellschaft M.B.H. Mauthner				
	WO 02/19420	08/31/2001	Georgia Tech Research Corporation				
	WO 02/37500	05/24/2001	The Regents of The University of California				
	WO 02/38496	11/12/2001	International Business Machines Corporation				
	WO 02/42204	11/02/2001	Lockheed Martin Corporation				
, and the second	WO 02/48701	12/11/2001	President And Fellows Of Harvard College				
	WO 02/48822	12/11/2001	Mayer et al.				
	WO 02/054505	12/21/2001	International Business Machines Corporation				
	WO 02/059898	01/23/2002	Infineon Technologies AG				
	WO 02/060812	01/29/2002	William Marsh Rice University				
8	WO 02/060813	01/30/2002	William Marsh Rice University				

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not citation if not conformance and not considered. Include copy with	

	RMATION	N DISCLO		Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
IN AN APPLICATION (Use several sheets if necessary)				Applica SEGAL, Bren	
				Filing Date	Group Art Unit
Sheet	16	OF	40	February 9, 2004	2811
		1			

Foreign Patent Documents						
Examiner Initial	Document No.	Publication Date mm-dd-yyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear		
(WO 97/22971	12/12/1996	Intel Corporation			
	EP 426 282 B1	08/30/1990	Sgs-Thomson			
	B1 420 202 B1	00/30/1770	Microelectronics, Inc.			
			Kabushiki Kaisha Toshiba			
	EP 441 409 A3	07/27/1988	Toshiba Micro-Computer			
			Engineering Corporation			
			Kabushiki Kaisha Toshiba			
	EP 441 409 B1	07/27/1988	Toshiba Micro-Computer			
	····		Engineering Corporation	······································		
	EP 758 028 A3	07/09/1996	Research Development			
	21 750 020 115	0110311330	Corporation Of Japan			
	EP 1 205 436 A1	11/05/2001	International Business			
	El 1203 430 A1 11/03/2	11/05/2001	Machines Corporation			
1	EP 1 209 123 A2	09/06/1996	William Marsh Rice			
	E1 120/125112	03/00/1330	University			
	EP 1 225 613 A1	10/12/2000	Matsushita Electric			
			Industrial Co., Ltd.			
	GB 2 364 933 A	07/18/2001	LG Electronics Inc.			
	EP 1 132 920 A2	02/27/2001	Hewlett-Packard Company			
	WO 01/03208	1/11/2001	President And Fellows Of			
		1,11,2001	Harvard College			
			Board Of Trustees Of The			
	WO 01/44796	6/21/2001	Leland Stanford Junior			
			University			
	WO 00/73204 C2		Commonwealth Scientific			
		12/07/2000	And Industrial Research			
			Organisation			
			Commonwealth Scientific			
(Se)	WO 00/63115	10/26/2000	And Industrial Research			
			Organisation			

EXAMINER	DATE CONSIDERED	15/	05
EXAMINER: Initial if citation is considered, whether or not citation if not conformance and not considered, lockude copy with			Draw Line through

Subt. For, PTO-1449 **Docket Number** Application Number 112020.129US2 10/774,682 INFORMATION DISCLOSURE NAN-6 IN AN APPLICATION Applicant SEGAL, Brent M., et al. (Use several sheets if necessary) Filing Date Group Art Unit OF Sheet 17 40 February 9, 2004 2811

Foreign Patent Documents						
Examiner Initial	Document No.	Publication Date mm-dd-yyy	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear		
0	EP 1 096 533	95/02/2001	Lucent Technologies Inc.			

EXAMINER	
CYCHINITEN	

DATE CONSIDERED

	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
	IN AN APP several she			Applica SEGAL, Bren	
				Filing Date	Group Art Unit
Sheet	18	OF	40	February 9, 2004	2811

	Othe	r Documents (Including Author, Title, Date Pertinent Pages, Etc.)
Examiner Initial	Cite	
(A)	A1	Winslow, Troy. "Advanced+ Boot Block World's First 0.18-Micron Flash Memory." Flash Products Group. April 17, 2000.
	A2	"Double Sided 4Mb SRAM Coupled Cap PBGA Card Assembly Guide." International Business Machines Corp. (IBM), 1998.
	A3	Tyagi et al. "A 130nm Generation Logic Technology Featuring 70nm Transistors, Dual Vt Transistors and 6 Layers of Cu Interconnects." Portland Technology Development.
i e	A4	"Preliminary: 8Mb (256Kx36 & 512Kx18) and 4Mb (128Kx36 & 256Kx18) [IBM0418A8CBLBB, IBM0418A4CBLBB, IBM0436A8CBLBB, IBM0436A4CBLBB]." International Business Machines Corp. (IBM), 1998.
	A5	Wei, Chengyu et al. "Temperature and Stain-Rate Dependent Plastic Deformation of Carbon Nanotube."
	A6	"Package Mechanicals for USAR ICs." USAR Systems, Inc., 1998.
	A7	Dipert, Brian. "Exotic Memories, Diverse Approaches." EDN Magazine. April 26, 2001, 56-70.
	A8	Duan, Xiangfeng. "Indium Phosphide Nanowires as Building Blocks for Nanoscale Electronic and Optoelectronic Devices." Nature (2001); 409: 66-69.
	A9	Yang. "A High Performance 180 nm Generation Logic Technology." Portland Technology Development.
	A10	Dai, Hongjie. "Controlled Chemical Routes to Nanotube Architectures, Physics, and Devices." The Journal of Physical Chemistry B (1999); 103: 11246-11255.
	A11	Callaby, D. Roy et al. "Solid State Memory Study Final Report." National Media Lab, Feb. 1994.
	A12	Cui, Yi. "Doping and Electrical Transport in Silicon Nanowires." The Journal of Physical Chemistry B (2000); Vol. 104, No. 22: 5213-5216.
a	A13	Li, Mingtao et al. "Direct Three-dimensional Patterning Using Nanoimprint Lithography." Applied Physics Letters (2000); Vol. 78, No. 21: 3322-3324.

EXAMINER	DATE CO SIDERED
6	4/16/65
EXAMINER: Initial if citation is considered, whether or not citatic citation if not conformance and not considered, include copy with	

	RMATION		-	Docket Number Application Number 112020.129US2 10/774,682 NAN-6 Applicant SEGAL, Brent M., et al.	
	N AN APP several she				
				Filing Date	Group Art Unit
Sheet	19	OF	40	February 9, 2004	2811
]	

	Other	Documents (Including Author, Title, Date Pertinent Pages, Etc.)				
Examiner Initial	Cite					
	A14	"8 Mb Synchronous Communication SRAM (IBM0418A86LQKA, IBM0418A86SQKA, IBM0436A86IQKA, IBM436A86SQKA)." International Business Machines Corp. (IBM), 1999.				
	A15	Dipert, Brian. "Memory Cards: Designing with a Full Deck." EDN Magazine. May 25, 2000.				
	A16	Schönenberger, Christian et al. "Physics of Multiwall Carbon Nanotubes." <i>Physics World.</i> April 4, 2000.				
	A17	Whatmore, Roger W. "Nanotechnology." Ingenia. February, 2000.				
	A18	"Nanochip NC800SX, 0.8 Gbyte Molecular Memory IC (R/W), Nanochip NC200SX, 0.2 Gbyte Molecular Memory IC (R/W), Nanochip NCM4510SX, Molecular Array Read/write Engine, Low Voltage Thermal Actuated, Dynamic Media Series M2, Nanochip NC4525DX, A/D-D/A Interface, Preliminary Specifications, Advance Information, (C) 1996-2000 Nanochip Document NCM2230500."				
	A19	Odom, Teri Wang et al. "Atomic Structure and Electronic Properties of Single-Walled Carbon Nanotubes." <i>Nature</i> (1998); 391: 62-64.				
	A20	Ouyang, Min. "Atomically Resolved Single-Walled Carbon Nanotube Intramolecular Junctions." Science (2001); 291: 97-100.				
	A21	Odom, Teri Wang et al. "Magnetic Clusters on Single-Walled Carbon Nanotubes: The Kondo Effect in a One-Dimensional Host." Science (2000); 290: 1549-1552.				
	A22	Wong, Eric et al. "Nanobeam Mechanics: Elasticity, Strength, and Toughness of Nanorods and Nanotubes." Science (1997); 277: 1971-1975.				
	A23	Hu, Jiangtao et al. "Controlled Growth and Electrical Properties of Heterojunctions of Carbon Nanotubes and Silicon Nanowires." Nature (1999); 399: 48-51.				
	A24	Rueckes, Thomas et al. "Carbon Nanotube-Based Nonvolatile Random Access Memory for Molecular Computing." Science (2000); 289: 94-7.				
	A25	Kim, Philip et al. "Nanotube Nanotweezers." Science (1999); 286: 2148-2150.				
SON	A26	Huang, Yu et al. "Directed Assembly of One-Dimensional Nanostructures				
EXAMINER	9	DATE CONSIDERED				

-	RMATION			Docket Number Application Number 112020.129US2 10/774,682 NAN-6	
IN AN APPLICATION (Use several sheets if necessary)				Applicant SEGAL, Brent M., et al.	
Sheet	20	OF	40	Filing Date February 9, 2004	Group Art Unit 2811
	20	++		1 651041 9, 2004	2011

	Other	Documents (Including Author, Title, Date Pertinent Pages, Etc.)
Examiner Initial	Cite	
4		into Functional Networks." Science (2001); 291: 630-33.
(2)	A27	Cui, Yi et al. "Functional Nanoscale Electronic Devices Assembled Using Silicon Nanowire Building Blocks." Science (2001); 291: 851-53.
	A28	Oullette, Jennifer. "Exploiting Molecular Self-Assembly." The Industrial Physicist. American Institute of Physics, December 2000.
	A29	Peng, Shu et al. "Chemical Control of Nanotube Electronics." Nanotechnology (2000); 11: 57-60.
	A30	"The Ultimate Memory Guide." Kingston Technology (1998).
	A31	Morales, Alfredo et al. "A Laser Ablation Method for the Synthesis of Crystalline Semiconductor Nanowires." Science (1998); 279: 208-11.
	A32	Franklin, Nathan R. and Hongjie Dai, "An Enhanced CVD Approach to Extensive Nanotube Networks with Directionality." Advanced Materials (2000): 890 – 894.
	A33	Kong, Jing; Chongwu Zhou; Erhan Yenilmez; Hongjie Dai. "Alkaline metal-doped n-type semiconducting nanotubes as quantum dots." ApplieDPhysics Letters (11 Dec. 2000): 3977 – 3979.
č	A34	Tombler, Thomas W.; Chongwu Zhou; Jing Kong; Hongjie Dai. "Gating individual nanotubes and crossed with scanning probes." Applied Physics Letters (24 April 2000): 2412 – 2414.
	A35	Zhou, Chongwu: et al. "Electrical measurements of individual semiconducting single-walled carbon nanotubes of various diameters." Applied Physics Letters (20 March 2000): 1597 – 1599.
	A36	Zhang, Y. and Hongjie Dai. "Formation of metal nanowires on suspended single-walled carbon nanotubes." Applied Physics Letters (6 Nov. 2000): 3015 – 3017.
	A37	Chen, Robert J. et al. "Molecular photodesorption from single-walled carbon nanotubes." Applied Physics Letters (1 Oct. 2001): 2258 – 2260.
A	A38	Zhang, Y.et al. "Electric-field-directed growth of aligned single-walled carbon nanotubes." Applied Physics Letters (5 Nov. 2001): 3155 – 3157.

EXAMINER .	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not cita citation if not conformance and not considered. Include copy with	

	RMATION	N DISCLO		Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
		eets if nece		Applicant SEGAL, Brent M., et al.	
Sheet	21	OF	40	Filing Date February 9, 2004	Group Art Unit 2811
				_ 1 coldary 5, 2004	2011

Examiner Initial A39 A40 A41 A42 A44 A44 A44	Zhang, Y. et al. "Metal coating on suspended carbon nanotubes and its implication to metal-tube interaction." Chemical Physics Letters (24 Nov. 2000): 35 – 41. Chen, Robert J. et al. "Noncovalent Sidewall Functionalization of Single-Walled Carbon Nanotubes for Protein Immobilization." American Chemical Society (2001): 3838 – 3839. Li, Yiming et al. "Growth of Single-Walled Carbon Nanotubes from Discrete Catalytic Nanoparticles of Various Sizes." American Chemical Society (2001). Cassell, Alan M. et al. "Large Scale CVD Synthesis of Single-Walled Carbon Nanotubes." American Chemical Society (1999): 6484 – 6492. Ean Shoushan et al. "Carbon panotube arrays on silican substrates and their
A41 A42 A44 A44 A44	implication to metal-tube interaction." Chemical Physics Letters (24 Nov. 2000): 35 – 41. Chen, Robert J. et al. "Noncovalent Sidewall Functionalization of Single-Walled Carbon Nanotubes for Protein Immobilization." American Chemical Society (2001): 3838 – 3839. Li, Yiming et al. "Growth of Single-Walled Carbon Nanotubes from Discrete Catalytic Nanoparticles of Various Sizes." American Chemical Society (2001). Cassell, Alan M. et al. "Large Scale CVD Synthesis of Single-Walled Carbon Nanotubes." American Chemical Society (1999): 6484 – 6492. Fan, Shoushan et al. "Carbon nanotube arrays on silicon substrates and their possible application." Physica E (2000): 179 – 183.
A4: A4: A4: A4:	 Walled Carbon Nanotubes for Protein Immobilization." American Chemical Society (2001): 3838 – 3839. Li, Yiming et al. "Growth of Single-Walled Carbon Nanotubes from Discrete Catalytic Nanoparticles of Various Sizes." American Chemical Society (2001). Cassell, Alan M. et al. "Large Scale CVD Synthesis of Single-Walled Carbon Nanotubes." American Chemical Society (1999): 6484 – 6492. Fan, Shoushan et al. "Carbon nanotube arrays on silicon substrates and their possible application." Physica E (2000): 179 – 183.
A4: A4: A4:	Catalytic Nanoparticles of Various Sizes." American Chemical Society (2001). Cassell, Alan M. et al. "Large Scale CVD Synthesis of Single-Walled Carbon Nanotubes." American Chemical Society (1999): 6484 – 6492. Fan, Shoushan et al. "Carbon nanotube arrays on silicon substrates and their possible application." Physica E (2000): 179 – 183.
A4: A4: A4:	Carbon Nanotubes." American Chemical Society (1999): 6484 – 6492. Fan, Shoushan et al. "Carbon nanotube arrays on silicon substrates and their possible application." Physica E (2000): 179 – 183.
A44 A45	possible application." Physica E (2000): 179 – 183.
A4:	
A40	
	Kong, Jing et al. "Quantum Interference and Ballistic Transmission in
	Liu, C. et al. "Synthesis of Macroscopically Long Ropes of Well-Aligned Single-Walled Carbon Nanotubes." Advanced Materials (16 Aug. 2000); 12, 1190 – 1192.
A41	Kiang, Ching-Hwa. "Growth of Large-Diameter Single-Walled Carbon Nanotubes." American Chemical Society (2000); 104, 2454 – 2456.
A48	Cheung. Chin Li et al. "Growth and fabrication with single-walled carbon
A49	Bozovic, Dolores et al. "Electronic properties of mechanically induced kinds on single-walled carbon nanotubes." Applied Physics Letters (4 June 2001); 78, 3693 – 3695.
A50	

EXAMINER: Initial if citation is considered, whether or not citation is in conformance with MPEP § 609: Draw

	-1449 PRMATION IN AN APP			Docket Number Application Number 112020.129US2 10/774,682 NAN-6		
	e several she			SEGAL, Brent M., et al.		
Sheet	22	OF	40	Filing Date February 9, 2004	Group Art Unit 2811	

	Othe	r Documents (Including Author, Title, Date Pertinent Pages, Etc.)
Examiner Initial	Cite	
		Carbon Nanotube Tips for Scanning Prone Microscopies." <i>The Journal of Physical Chemistry</i> (1 Feb. 2001); 105, 743 – 746.
	A51	Hafner, J.H. et al. "Structural and functional imaging with carbon nanotube AFM probes." Progress in Biophysics & Molecular Biology (2001); 77, 73 – 110.
	A52	Jorio, A. et al. "Joint density of electronic states for one isolated single-wall carbon nanotube studied by resonant Raman scattering." Physical Review B (2001); 63: 24541(4).
	A53	Filho, A. G. Souza et al. "Electronic transition energy Eii for an isolated (n, m) single-wall carbon nanotube obtained by anti-Stokes/Stokes resonant Raman intensity ratio." <i>Physical Review</i> (2002); 63, 241404(4)
	A54	Saito, R. et al. "Chirality-dependent G-band Raman intensity of carbon nanotubes." <i>Physical Review</i> (2001); 64, 085312(7).
	A55	Jorio, A. et al. "Structural (n, m) Determination of Isolated Single-Wall Carbon Nanotubes by Resonant Raman Scattering." Physical Review Letters (5 Feb. 2001); 86, 1118 – 1121.
	A56	Woolley, Adam T. et al. "Structural biology with carbon nanotube AFM probes." Chemistry & Biology (2000); 7, R193 – 204.
	A57	Li, Yan et al. "Preparation of Monodispersed Fe-Mo Nanoparticles as the Catalyst for CVD Synthesis of Carbon Nanotubes." Chemical Material (2001): 13; 1008 – 1014.
	A58	Rao, C. N. R. et al. "Nanotubes." CHEMPHYCHEM (2001); 2, 78 – 105.
	A59	Nerushev, Oleg A. et al. "Carbon nanotube films obtained by thermal chemical vapor deposition." Journal of Chemistry Materials (2001); 11, 1122 – 1132.
	A60	Flahaut, E. et al. "Synthesis of single-walled carbon nanotube-Co-MgO composite powders and extraction of the nanotubes." Journal of Chemical Materials (2000); 10, 249 –252.
	A61	Dresselhaus, Mildred S. and Phaedon Avouris. "Introduction to Carbon Materials Research." Topics Applied Physics (2001); 80, 1 – 9.
XAMINER	A62	Dresselhaus, Mildred S. and Morinobu Endo. "Relation of Carbon Nanotube

	RMATION	N DISCLO		Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
IN AN APPLICATION (Use several sheets if necessary)				Applicant SEGAL, Brent M., et al.	
Sheet	23	OF	40	Filing Date February 9, 2004	Group Art Unit 2811

	Othe	Documents (Including Author, Title, Date Pertinent Pages, Etc.)
Examiner Initial	Cite	
<u>A</u>		to Other Carbon Materials." Topics in Applied Physics (2001); 80, 11 – 28.
	A63	Dai, Hongjie. "Nanotube Growth and Characterization." Topics in Applied Physics (2001); 80, 29 – 53.
	A64	Charlier, Jean-Chrisophe and Sumio Iijima. "Growth Mechanisms of Carbon Nanotubes." Topics in Applied Physics (2001); 80, 55 – 81.
	A65	Tenne, Richard and Alex K. Zettl. "Nanotubes from Inorganic Materials." Topics in Applied Physics (2001); 80, 81 – 112.
	A66	Louie, Steven G. "Electronic Properties, Junctions, and Defects of Carbon Nanotubes." Topics in Applied Physics (2001); 80, 113 – 145.
	A67	Yao, Zhen et al. "Electrical Transport Through Single-Wall Carbon Nanotubes." Topics in Applied Physics (2001); 80, 147 – 171.
	A68	Odom, Teri Wang et al. "Scanning Probe Microscopy Studies of Carbon Nanotubes." Topics in Applied Physics ((2001); 80, 173 – 211.
	A69	Saito, Riichiro and Hiromichi Kataura. "Optical Properties and Raman Spectroscopy of Carbon Nanotubes." <i>Topics in Applied Physics</i> (2001); 80, 213 – 247.
	A70	Fink, Joerg H. and Philippe Lambin. "Electron Spectroscopy Studies of Carbon Nanotubes." <i>Topics in Applied Physics</i> (2001); 80, 247 – 272.
	A71	Hone, James. "Phonons and Thermal Properties of Carbon Nanotubes." Topics of Applied Physics (2001); 80, 273 – 286.
	A72	Yakobson, Boris I. And Phaedon Avouris. "Mechanical Properties of Carbon Nanotubes." Topics in Applied Physics (2001); 80, 287 – 327.
	A73	Forro, Laszlo and Christian Schoenenberger. "Physical Properties of Multiwall Nanotubes." Topics in Applied Physics (2001); 80, 329 – 391.
	A74	Ajayan, Pulickel M. and Otto Z. Zhou. "Applications of Carbon Nanotubes." Topics in Applied Physics (2001); 80, 391 – 425.
	A75	Kong, J. et al. "Synthesis, integration, and electrical properties of individual single-walled carbon nanotubes." Applied Physics A (1999); 69, 305 – 308.
S	A76	Dai, Hongjie et al. "Exploiting the properties of carbon nanotubes for nanolithography." Applied Physics Letters (14 Sept. 1998); 73, 1508 – 1510.

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not cital citation if not conformance and not considered. Include copy with	

	RMATION		-	Docket Number 112020.129US2 NAN-6	Application Number 10/774,682	
	IN AN APF			SEGAL, Brent M., et al.		
Sheet	24	OF	40	Filing Date February 9, 2004	Group Art Unit 2811	
				1 1		

	Othe	r Documents (Including Author, Title, Date Pertinent Pages, Etc.)					
Examiner Initial	Cite						
	A77	Soh, Hyongsok T. et al. "Integrated nanotube circuits." Applied Physics Letters (2 Aug. 1999); 75, 627 – 629.					
	A78	Bozler, C.O., et al., "Fabrication and Microwave Performance of the Permeable Base Transistor," <i>IEEE Tech. Dig. Int. Electron Devices Meeting</i> (1979) 384.					
	A79	Cheng, H. M. et al. "Large-scale and low-cost synthesis of single-walled carbon nanotubes by the catalytic pyrolysis of hydrocarbons." Applied Physics Letters (22 June 1998); 72, 3282 – 3284.					
	A80	Shim, Moonsub et al. "Polymer Functionalization for Air-Stable n-Type Carbon Nanotube Field-Effect Transistors." Journal of American Chemical Society (2001); 123, 11512 – 11513.					
	A81	Haddon, R. C. "C70 Thin Film Transistors." Journal of the American Chemical Society (1996); 118, 3041 – 3042.					
	A82	Hafner, Jason H. et al. "Direct Growth of Single-Walled Carbon Nanotube Scanning Probe Microscopy Tips." Journal of the American Chemical Society (1999); 121, 9750 – 9751.					
A83		Hafner, Jason H. et al. "Growth of nanotubes for probe microscopy tips." Scientific Correspondence (29 April 1999); 398, 761, 762.					
	A84	Bekyarova, E. et al. "Oxidation and Porosity Evaluation of Budlike Single-Wall Carbon Nanohorn Aggregates." American Chemical Society (2002).					
	A85	Hafner, Jason H. et al. "Catalytic growth of single-wall carbon nanotubes from metal particles." Chemical Physics Letters (30 Oct. 1998); 296, 195 – 202.					
	A86	Cheng, H. M. et al. "Large-scale and low-cost synthesis of single-walled carbon nanotubes by the catalyst pyrolysis of hydrocarbons." Applied Physics Letters (22 June 1998); 72, 3282 – 3284.					
	A87	Li, Yan et al. "Preparation of Monodispersed Fe-Mo Nanoparticles as the Catalyst for CVD Synthesis of Carbon Nanotubes." Chemical Material (2001); 13, 1008 – 1014.					
	A88	Kiang, Ching-Hwa. "Growth of Large-Diameter Single-Walled Carbon Nanotubes." Journal of Physical Chemistry A. (2000); 104, 2454 – 2456.					
XAMINER		DATE CONSIDERED					

	-1449 PRMATION IN AN API			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
	e several sh			Applicant SEGAL, Brent M., et al.	
Sheet	25	OF	40	Filing Date February 9, 2004	Group Art Unit 2811

	Othe	r Documents (Including Author, Title, Date Pertinent Pages, Etc.)
Examiner Initial	Cite	
B	A89	Nerushev, Oleg A. et al. "Carbon nanotube films obtained by thermal chemical vapour deposition." Journal of Material Chemistry (2001); 11, 1122 – 1132.
1	A90	Kong, J. et al. "Synthesis, integration, and electrical properties of individual single-walled carbon nanotubes." Applied Physics A (1999); 69, 305 – 308.
	A91	Zhou, Chongwu et al. "Electrical measurements of individual semiconducting single-walled carbon nanotubes of various diameters." Applied Physics Letters (20 March 2000); 76, 1597 – 1599.
	A92	Yu, et al., J. Phys. Chem. B, 105:6831-6837 (2001).
	A93	Berber, S., Phys. Rev. Lett, 84, 4613 (2000).
	A94	Bahr, Jeffrey L. and James. M. Tour. "Highly Functionalized Carbon Nanotubes Using in Situ Generated Diazonium Compounds." <i>Chemical Materials</i> (2001); 13, 3823 – 3824.
	A95	Peigney, Alain et al. "A Study of the Formation of Single- and Double-Walled Carbon Nanotubes by a CVD Method." Journal of Physical Chemistry B (2001); 105, 9699 – 9710.
	A96	Yao, B. D. and N. Wang. "Carbon Nanotube Arrays Prepared by MWCVD." Journal of Physical Chemistry (2001); 105, 11395 – 11398.
	A97	Ago, Hiroki et al. "Gas-Phase Synthesis of Single-wall Carbon Nanotubes from Colloidal Solution of Metal Nanoparticles." Journal of Physical Chemistry B (1 Nov. 2001); 105, 10453 – 10456.
	A98	Li, Yiming et al. "Growth of Single-Walled Carbon Nanotubes from Discrete Catalytic Nanoparticles of Various Sizes." Journal of Physical Chemistry B (2001); 105, 11424 – 11431.
	A99	Ng, Hou Tee et al. "Soft-Lithography-Mediated Chemical Vapor Deposition of Architectured Carbon Nanotube Networks on Elastomeric Polymer." American Chemical Society (2001).
	A100	Derycke, V. et al. "Carbon Nanotube Inter-and Intramolecular Logic Gates." Nano Letters (Sept. 2001); 1, 453 – 456.
	A101	Erkoc et al., Int. J. Modern Phys. C, 12:865-870 (2001).

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not citaticitation if not conformance and not considered. Include copy with	

	RMATION	N DISCLO		Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
		PLICATIO eets if neces		Applicant SEGAL, Brent M., et al.	
****				Filing Date	Group Art Unit
Sheet 26 OF 40			40	February 9, 2004	2811

		Other	D. A. M. D.				
Y-1 .	Other Documents (Including Author, Title, Date Pertinent Pages, Etc.)						
Examination Examination	ner	Cite					
A102		A102	Benerjee, Sarbajit and Stanislaus S. Wong. "Functionalization of Carbon Nanotubes with a Metal-Containing Molecular Complex." Nano Letters (2001); 0, A – E.				
		A103	Reynoso, J. 391PGA Drawings (3): Project No. 32639103. Kyocera America, Inc. (12 April 1994).				
	_	A104	Diehl, Michael R. et al. "Self-Assembled, Deterministic Carbon Nanotube Wiring Networks." Angew. Chemical International Edition (2002); 41, 353 – 356.				
		A105	Table of Contents for Semiconductor Consulting Services (1999).				
	,	A106	Sidorov, S. N. et al. "Cobalt Nanoparticle Formation in the Pores of Hyper-Cross-Linked Polystyrene." Chemical Materials (1999); 11, 3210 – 3215.				
		A107	Brown, David A. et al. "Kinetics of Inron(III) Chelation from Polynuclear Oxo-Hydroxy Aggregates by Hydroxamic Acids." Inorganic Chemistry (1999); 38, 5198 – 5202.				
	A108		Douglas, Trevor and Vistoria T. Stark. "Nanophase Cobalt Oxyhydroxide Mineral Synthesized within the Protein Cage of Ferritin." <i>Inorganic Chemistry</i> (2000); 39, 1828 – 1830.				
		A109	Hatzikonstantinidou et al., Phys. Scripta 54: 226-229 (1994)				
		A110	Cao, Anyuan et al. "Macroscopic Three-Dimensional Arrays of Fe Nanoparticles Supported in Aligned Carbon Nanotubes." The Journal of Physical Chemistry B (2001); 105, 11937 – 11940.				
		A111	Li, Shoutian et al. "Semiconductor Nanoparticles in Contact: Quenching of the Photoluminescence from Silicon Nanocrystals by WO3 nanoparticles Suspended in Solution." The Journal of Physical Chemistry B (1998); 102, 7319 – 7322.				
6		A114	Zhao, YP. et al. "Frequency-dependent electrical transport in carbon nanotubes." Physical Review B (2001); 64, 201402(4).				
EXAMINE	ER _		DATE CONSIDERED				

EXAMINER DATE CONSIDERED 4/15/05

1	-1449 PRMATION IN AN APP			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682	
	e several she			Applicant SEGAL, Brent M., et al.		
ļ				Filing Date	Group Art Unit	
Sheet 27 OF 40			40	February 9, 2004	2811	
]		

	Other	Documents (Including Author, Title, Date Pertinent Pages, Etc.)				
Examiner Initial	Cite					
	A115	Zhu, H. W. et al. "Direct Synthesis of Long Single-Walled Carbon Nanotube Strands." Science (3 May 2002); 296, 884 – 886.				
	A116	Ajayan, P. M. et al. "Nanotubes in a Flash – Ignition and Reconstruction." Science (26 April 2002); 296, 705.				
	A117	Franklin, Nathan R. et al. "Patterned growth of single-walled carbon nanotubes on full 4-inch wafers." Applied Physics Letters (31 Dec. 2001); 79, 4571 – 4573.				
	A118	Fan, Shoushan et al. "Self-Oriented Regular Arrays of Carbon Nanotubes and Their Field Emission Properties." Science (22 Jan. 1999); 283, 512 - 514.				
	A119	Sohn, Jung Inn, et al., "Patterned selective growth of carbon nanotubes and large field emission from vertically well-aligned carbon nanotube field emitter arrays." Appl. Phys. Letters (12 Feb. 2001); 78, 901 – 903.				
	A120	Postma, Henk W. C. et al. "Manipulation and Imaging of Individual Single-Walled Carbon Nanotubes with an Atomic Force Microscope." Advanced Materials (1 Sept. 2000); 12, 1299 – 1302.				
	A121	Chen, J. et al., "Large On-Off Ratios and Negative Differential Resistance in a Molecular Electronic Device," <i>Science</i> , Vol. 286, 19 Nov. 1999, pp. 1550-151				
	A122	Collier, C.P., et al., "Electronically Configurable Molecular-Based Logic Gates," Science, Vol. 285, 16 Jul. 1999, pp. 391-394.				
	A123	"IBM Builds Tiny Transistor that Beats Silicon", Technology – Reuters, Yahoo, May 16, 2002.				
	A124	Yao, Z., et al, Phys. Rev. Lett, 84, 2941 (2000).				
	A125	Tans, Sander J., "Room-temperature transistor based on a single carbon nanotube," Nature, May 1998, Vol. 393, pages 49-52				
	A126	Dillon, Anne C., "A Simple and Complete Purification of Single-Walled Carbon Nanotube Materials," Advanced Materials, 1999, Vol. 11, pgs. 1354 1358				
AN	A127	Cleland, A.N., "Single-crystal aluminum nitride nanomechanical resonators," Applied Physics Letters, September 24, 2001, Vol. 79, pgs. 2070-2072				
EXAMINER	15	DATE CONSIDERED				

	-1449 PRMATION IN AN APF			Docket Number Application Number 112020.129US2 10/774,682 NAN-6 Applicant SEGAL, Brent M., et al.	
	e several she				
Sheet	28	OF	40	Filing Date February 9, 2004	Group Art Unit 2811

	Other Documents (Including Author, Title, Date Pertinent Pages, Etc.)						
Examiner Initial	Cite						
	A129	Kluth, P., "Fabrication of epitaxial CoSi ₂ nanowires," Applied Physics Letters, August 6, 2001, Vol. 79, pgs. 824-826					
	A130	Zhang, Y., "Formation of metal nanowires on suspended single-walled carbon nanotubes," Applied Physics Letters, November 6, 2000, Vol. 77, pgs. 3015-3017					
	A131	Berry, A.D., "Fabrication of GaAs and InAs wires in nanochannel gas," Applied Physics Letters, November 4, 1996, Vol. 69, pgs. 2846-2848					
	A132	Li, Jian-Long, "Spontaneous formation of ordered indium nanowire array on Si(001)," Applied Physics Letters, October 22, 2001, Volume 79, pgs. 2826-2828					
,	A133	Jorritsma, J., "Fabrication of large arrays of metallic nanowires on V-grooved substrates," Applied Physics Letters, September 4, 1995, Volume 67, pgs. 1489-1491					
ų.	A134	Sekiba, Daiichiro, "Fabrication of stable nanopatterns on metals," Applied Physics Letters, September 30, 2002, Vol. 81, pgs. 2632-2634					
	A135	Yin, A. J., "Fabrication of highly ordered metallic nanowire arrays by electrodeposition," Applied Physics Letters, August 31, 2001, Vol. 79, pgs. 1039-1041					
i.	A136	He, J. Z., "Dispersion, refinement, and manipulation of single silicon nanowires," Applied Physics Letters, March 11, 2002, Vol. 80, pgs. 1812-1814					
	A137	Franklin, Nathan R., "Integration of suspended carbon nanotube arrays into electronic devices and electromechanical systems," Applied Physics Letters, July 29, 2002, Vol. 81, pgs. 913-915					
	A138	Homma, Yoshikazu, "Growth of suspended carbon nanotube networks on 100-nm-scale silicon pillars," Applied Physics Letters, September 16, 2002, Volume 81, pgs. 2261-2263					
A139 Yer tips		Yenilmez, Erhan, "Wafer scale production of carbon nanotube scanning probe tips for atomic force microscopy," Applied Physics Letters, March 25, 2002, Volume 80, pgs. 2225-2227					
طسعا	A141	Dinaro, Joanna, "Analysis of an Elementary Reaction Mechanism for					
FYAMINED		DATE CONSID RED					

4	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682	
	N AN APPI several shee			Applicant SEGAL, Brent M., et al.		
				Filing Date	Group Art Unit	
Sheet 29 OF 40			40	February 9, 2004	2811	

	Othe	r Documents (Including Author, Title, Date Pertinent Pages, Etc.)
Examiner Initial	Cite	
6		Benzene Oxidation in Supercritical Water, Combustion Institute," 2000, Volume 28, pgs. 1529-1536
	A142	Monthioux, M., "Sensitivity of single-wall carbon nanotubes to chemical processing: an electron microscopy investigation," Carbon, 2001, Vol. 39, pgs. 1251-1272
	A143	Hou, P. X., "Multi-step purification of carbon nanotubes," 2002 Elsevier Science Ltd., March 8, 2001, Vol. 40, pgs. 81-85
	A144	Avouris, P., "Carbon nanotube electronics," Carbon, 2002, Vol. 40, pgs. 429-445
	A145	Chen, Bin, "Heterogeneous Single-Walled Carbon Nanotube Catalyst Discovery and Optimization," Chemical Materials, December 7, 2001, Vol. 14, pgs. 1891-1896
	A146	Maurin, I., "Carbon Miscibility in the Boron Layers of the MgB ₂ Superconductor," Chemical Materials, 2002, pgs. A-D
	A147	Hyeon-Lee, Jingyu, "Aero-Sol-Gel Synthesis of Nanostructured Silica Powders," Chemical Materials, 1997, Vol. 9, pgs. 2400-2403
	A148	McEuen, Paul L., "Single-Walled Carbon Nanotube Electronics, to be published in the inaugural issue of the IEEE Transactions on Nanotechnology (2002), 9 pgs.
	A149	Dürkop, T., "Nanotubes are High Mobility Semiconductors," Department of Physics, University of Maryland, 4 pgs.
	A150	Choi, Hee Cheul, "Spontaneous Reduction of Metal Ions on the Sidewalls of Carbon Nanotubes," J. Amer. Chem. Soc., May 7, 2002, pgs. A-B
	A151	Zheng, Bo, "Efficient CVD Growth of Single-Walled Carbon Nanotubes on Surfaces Using Carbon Monoxide Precursor," Nano Letters, 2002, pgs. A-D
	A152	Deng, S. Z., "Synthesis of silicon carbide nanowires in a catalyst-assisted process," Chemical Physics Letters, April 26, 2002, Vol. 356, pgs. 511-514
Zhang, R. Q., "Silicon nanotubes: Why r		Zhang, R. Q., "Silicon nanotubes: Why not?," Chemical Physics Letters, 2002, Vol. 364, pgs. 251-258
	A154	Lei, Y., "Fabrication, characterization and Raman study of TiO ₂ nanowire

EXAMINER (CA)	DATE CONSIDERED
EXAMINER: initial if citation is considered, whether or not citat	tion is in conformance with MPEP § 609: Draw Line through
citation if not conformance and not considered. Include copy with	

	RMATION			Docket Number Application Number 112020.129US2 10/774,682 NAN-6 Applicant SEGAL, Brent M., et al.		
	N AN APPL					
				Filing Date	Group Art Unit	
Sheet	30	OF	40	February 9, 2004	2811	

	Other	Documents (Including Author, Title, Date Pertinent Pages, Etc.)				
Examiner Initial	Cite					
		arrays prepared by anodic oxidative hydrolysis of TiCl ₃ ," Chemical Physics Letters, 2001, Vol. 338, pgs. 231-236				
	A155	Zheng, M. J., "Fabrication and optical properties of large-scale uniform zinc oxide nanowire arrays by one-step electrochemical deposition technique," Chemical Physics Letters, 2002, Vol. 363, pgs. 123-128				
	A156	O'Connell, Michael J., "Reversible water-solubilization of single-walled carbon nanotubes by polymer wrapping," Chemical Physics Letters, 2001, Vol. 342, pgs. 265-271				
T	A157	Huang, Houjin, "Purification and alignment of arc-synthesis single-walled carbon nanotube bundles," Chemical Physics Letter, 2002, Vol. 356, pgs. 567-572				
	A158	Kong, Jing, "Chemical vapor deposition of methane for single-walled carbon nanotubes," Chemical Physics Letters, 1998, Vol. 292, pgs. 567-574				
	A159	Bergbreiter, David E., "Using Soluble Polymers To Recover Catalysts and Ligands," Chemical Reviews, March 5, 2002, pgs. A-AM				
	A160	Roucoux, Alain, "Reduced Transition Metal Colloids: A Novel Family of Reusable Catalysts?," Chemical Reviews, January 30, 2002, pgs. A-V				
	A161	Yoshida, Jun-ichi, "Tag Strategy for Separation and Recovery," Chemical Reviews, March 18, 2002, pgs. A-X				
	A162	De Vos, Dirk E., "Ordered Mesoporous and Microporous Molecular Sieves Functionalized with Transition Metal Complexes as Catalysts for Selective Organic Transformations," Chemical Reviews, January 31, 2002, pgs. A-Z				
1	A163	Connelly, Neil G., "Chemical Redox Agents for Organometallic Chemistry," Chemical Reviews, January 9, 1996, Vol. 96, pgs. 877-910				
	A164	Dequesnes, Marc, "Calculation of pull-in voltages for carbon-nanotube-based nanoelectromechanical switches," Nanotechnology, January 22, 2002, Vol. 13, pgs. 120-131				
	A165	Serp, Philippe, "Chemical Vapor Deposition Methods for the Controlled Preparation of Supported Catalytic Materials," Chemical Reviews, April 10, 2002, pgs. A-AR				
لمص	A166	Diehl, Michael R., "Self-Assembled, Deterministic Carbon Nanotube Wiring				
EXAMINER	6	DATE CONSIDERED				

	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
1	N AN APP			Applica SEGAL, Bren	
				Filing Date	Group Art Unit
Sheet	31	OF	40	February 9, 2004	2811

	Othe	r Documents (Including Author, Title, Date Pertinent Pages, Etc.)
Examiner	Othe	Documents (including Author, Title, Date Pertinent Pages, Etc.)
nitial	Cite	
		Networks," Angew. Chem. Int. Ed., 200 Vol. 41, pgs. 353-356
	A167	Wind, S.J., "Localized and Directed Lateral Growth of Carbon Nanotubes from a Porous Template," IBM T.J. Watson Research Center, 17 pgs.
	A168	Wind, S. J., "Fabrication and Electrical Characterization of Top Gate Single-Wall Carbon Nanotube Field-Effect Transistors," IBM T. J. Watson Researc Center, 14 pgs.
	A169	Harutyunyan, Avetik R., "CVD Synthesis of Single Wall Carbon Nanotubes under "Soft" Conditions," Nano Letters, February 25, 2002, pgs. A-F
	A170	Massot, L., "Electrodeposition of carbon films from molten alkaline fluoride media," Electrochimica Acta, January 28, 2002, Vol. 47, pgs. 1949-1957
	A171	Heinze, S., "Carbon Nanotubes as Schottky Barrier Transistors," Physical Review Letters, September 2, 2002, Volume 89, pgs. 106801-1 through 106801-4.
	A172	Duan, Xiangfeng, "Indium phosphide nanowires as building blocks for nanoscale electronic and optoelectronic devices," Nature, January 4, 2001, Vol. 409, pgs. 66-69
	A173	Chen, Robert J., "Noncovalent Sidewall Functionalization of Single-Walled Carbon Nanotubes for Protein Immobilization," J. Amer. Chem. Soc., 2001, Vol. 123, pgs. 3838-3839
	A174	Puntes, Victor F., "Synthesis of hcp-Co Nanodisks," J. Amer. Chem. Soc., 2002, Vol. 124, pgs. 12874-12880
	A175	An, Lei, "Synthesis of Nearly Uniform Single-Walled Carbon Nanotubes Using Identical Metal-Containing Molecular Nanoclusters as Catalysts," j. Amer. Chem. Soc., 2002, total of 4 pgs.
	A176	Cassell, Alan M., "Directed Growth of Free-Standing Single-Walled Carbon Nanotubes," American Chemical Society, June 21, 1999, Vol. 121, pgs. 7975-7976
	A177	Bahr, Jeffrey L., "Functionalization of Carbon Nanotubes by Electrochemics Reduction of Aryl Diazonium Salts: A Bucky Paper Electrode," American Chemical Society, 2001, Vol. 123, pgs. 6536-6542
	A178	Fruchart, O., "Vertical self-organization of epitaxial magnetic

INFO	INFORMATION DISCLOSURE IN AN APPLICATION (Use several sheets if necessary)	Docket Number 112020.129US2 NAN-6	Application Number 10/774,682			
				Applica SEGAL, Bren		
				Filing Date	Group Art Unit	_
Sheet	32	OF	40	February 9, 2004	2811	

·						
	Othe	r Documents (Including Author, Title, Date Pertinent Pages, Etc.)				
Examiner Initial	Cite					
		nanostructures," Journal of Magnetism and Magnetic Materials, 2002, Vol. 239, pgs. 224-227				
	A179	Zhang, J., "Fabrication and photoluminescence of ordered GaN nanowire arrays," Journal of Chemical Physics, October 1, 2001, Volume 115, pgs. 5714-5717				
	A180	Dubois, S., "Fabrication and properties of arrays of superconducting nanowires," Journal of Materials Research March 1999, Vol. 14, pgs. 665-671				
	A181	Liu, Z.Q., "Synthesis of α-SiO ₂ nanowires using Au nanoparticle catalysts of a silicon substrate," Journal of Materials Research, March 2001, Vol. 16, pgs 683-686				
	A182	Lei, Y, "Fabrication, characterization, and photoluminescence properties of highly ordered TiO ₂ nanowire arrays, J. Material Research, April 2001, Vol. 16, pgs. 1138-1144				
	A183	Li, Y., "Fabrication of Highly ordered ZnO nanowire arrays in anodic alumina membranes," J. Materials Research, November 2000, Vol. 15, p. 2305-2308				
22.00	A184	Sellmyer, D.J., "Magnetism of Fe, Co and Ni nanowires in self-assembled arrays," J. of Physics: Condensed Matter, (2000) Vol. 13, pgs. R433-R460				
	A185	Blick, R.H., "Nanostructural silicon for studying fundamental aspects of nanomechanics," J. of Physics: Condensed Matter, (2002), pgs. R905-R945				
	A186	Ciraci, S., "Quantum effects in electrical and thermal transport through nanowires," J. of Physics: Condensed Matter, (2001), pgs. R537-R568 Yu, Jae-Young, "Silicon Nanowires: Preparation, Device, Fabrication, and Transport Properteis," J. Phys. Chem. B 2000, Vol. 104, pgs. 11864-11870 Yu, Zhonghua, "(n, m) Structural Assignments and Chirality Dependence in Single-Wall Carbon Nanotube Raman Scattering," J. Phys. Chem. B 2001, Vol. 105, pgs. 6831-6837				
e	A187					
	A188					
	A189	Wang, Y.W., "Fabrication of Ordered Ferromagnetic-Nonmagnetic Alloy Nanowire Arrays and their Magnetic Property Dependence on Annealing Temperature," J. Phys. Chem. B 2002, Vol. 106, pgs. 2502-2507				
XAMINER	6	DATE CONSIDERED				

1	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
	IN AN APf e several sh			Applica SEGAL, Bren	
Sheet	33	OF	40	Filing Date	Group Art Unit
- CHOCK		1 01	40	February 9, 2004	2811

	Other	Documents (Including Author, Title, Date Pertinent Pages, Etc.)
Examiner Initial	Cite	
م	A190	Murphy, Robert, "High-Yield, Nondestructive Purification and Quantification Method for Multiwalled Carbon Nanotubes," J. Phys. Chem. B 2002, Vol. 106, pgs. 3087-3091
	A191	Li, C.P., "Silicon Nanowires Wrapped with Au Film," J. Phys. Chem. B 2002, Vol. 106, pgs. 6980-6984
	A192	Steuerman, David W., "Interactions between Conjugated Polymers and Single-Walled Carbon Nanotubes," J. Phys. Chem. B 2002, Vol. 106, pgs. 3124-3130
	A193	Li, Jun, "Novel Three-Dimensional Electrodes: Electrochemical Properties of Carbon Nanotube Ensembles," J. Phys. Chem. B 2002, pgs. A-G
	A194	Cassell, Alan M., "Large Scale CVD Synthesis of Single-Walled Carbor Nanotubes," J. Phys. Chem. B 1999, Vol. 103, pgs. 6484-6492
	A195	Dai, Hongju, "Controlled Chemical Routes to Nanotube Architectures, Physics, and Devices," J. Phys. Chem. B 1999, Vol. 103, pgs. 11246-11255
	A196	Chiang, I.W., "Purification and Characterization of Single-Wall Carbon Nanotubes (SWNTs) Obtained from the Gas-Phase Decomposition of CO (HiPco Process)," J. Phys. Chem. B 2001, Vol. 105, pgs. 8297-8301
	A197	Tulchinsky, D.A., "Fabrication and domain imaging of iron magnetic nanowire arrays," J. Vac. Sci. Technol., May/June 1998, A 16(3), pgs. 1817-1819
	A198	Yun, Wan Soo, "Fabrication of metal nanowire using carbon nanotube as a mask," J. Vac. Sci. Technol., Jul/Aug 2000, A 18(4), pgs. 1329-1332
	A199	Batra, Inder P., "Quantum transport through one-dimensional aluminum wires," J. Vac. Sci. Technol., May/June 2002, B 20(3), pgs. 812_817
	A200	Tsutsumi, Toshiyuki, "Fabrication technology of ultrafine SiO ₂ masks and Si nanowires using oxidation of vertical sidewalls of a poly-Si layer," J. Vac. Sci. Technol., Jan/Feb 1999, B 17(1), pgs. 77-81
4	A201	Namatsu, Hideo, "Fabrication of one-dimensional nanowire structures utilizing crystallographic orientation in silicon and their conductance characteristics," J. Vac. Sci. Technol., Sept/Oct 1997, B 15(5), pgs. 1688-1696
FXAMINER		DATE CONSIDERED

	RMATION	N DISCLO	-	Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
		PLICATION seets if neces		Applica SEGAL, Bren	
Sheet	34	OF	40	Filing Date February 9, 2004	Group Art Unit 2811

	Other	Documents (Including Author, Title, Date Pertinent Pages, Etc.)			
Examiner Initial	Cite				
	A202	Namatsu, Hideo, "Fabrication of thickness-controlled silicon nanowires and their characteristics," J. Vac. Sci. Technol., Nov/Dec 1995, B 13(6), pgs. 2166-2169			
	A203	Cassell, Alan M., "Combinatorial Optimization of Heterogeneous Catalysts Used in the Growth of Carbon Nanotubes," Langmuir 2001, Vol. 17, pgs. 260-264			
	A204	Lewenstein, Justin C. "High-Yield Selective Placement of Carbon Nanotubes on Pre-Patterned Electrodes, Nano Letters., 2002, Vol 2, No. 5, pgs. 443-446			
	A205	Martino, Anthony, "Catalyst Testing of Highly Dispersed Metal Nanoparticles for Coal Liquefaction and Coal/Waste Copressing," Catalysis and Chemical Technologies Department, Sandia National Laboratories, pgs. 1-7			
	A206	Peng, X.S., "Electrochemical fabrication of ordered Ag ₂ S nanowire arrays," Materials Research Bulletin, 2002, No. 37, pgs. 1369-1375			
	A207	Robinson, L.A. W., "Self-aligned electrodes for suspended carbon nanotube structures," Microelectronics Research Centre, Cavendish Laboratory, University of Cambridge and Hitachi Cambridge Laboratory, pgs. 1-2			
	A208	Moore, Gordon E., "Cramming more components into integrated circuits," Electronics, April 19, 1965, Vol. 38, No. 8(4), 4 pgs.			
	A209	Fan, Hongyou, "Multiphased assembly of nanoporous silica particles," Journal of Non-Crystalline Solids (2001) Vol. 285, pgs. 71-78			
	A210	Franklin, Nathan R., "Integration of suspended carbon nanotube arrays into electronic devices and electromechanical systems," Applied Physics Letters, July 29, 2002, Vol. 81, No. 5, 913-915			
	A211	Kong, Jing, "Synthesis of individual single-walled carbon nanotubes on patterned silicon wafers," Nature, October 29, 1998, Vol. 395, pgs. 878-881			
	A212	Duan, Xiangfeng, "Nonvolatile Memory and Programmable Logic from Molecule-Gated Nanowires," Nano Letters, 2002, pgs. A-D			
6	A213	Fuhrer, M.S., "High-Mobility Nanotube Transistor Memory," Nano Letters,			
EXAMINER		DATE CONSIDERED			

EXAMINER DATE CONSIDERED

	RMATION		-	Docket Number Application Number 112020.129US2 10/774,682 NAN-6		
	N AN APF			Applicant SEGAL, Brent M., et al.		
Sheet	35	OF	40	Filing Date February 9, 2004	Group Art Unit 2811	

	Other	r Documents (Including Author, Title, Date Pertinent Pages, Etc.)
Examiner Initial	Cite	
6		2002, Vol. 2, No. 7, pgs. 755-759
	A214	Radosavljević, M.," Nonvolatile Molecular Memory Elements Based on Ambipolar Nanotube Field Effect Transitors," Nano Letters, 2002, Vol. 2, pgs. 761-764.
	A215	Derycke, V., "Catalyst-Free Growth of Ordered Single-Walled Carbon Nanotube Networks," Nano Letters, 2002, pgs. A-D
	A216	Joselevich, Ernesto, "Vectorial Growth of Metallic and Semiconducting Single-Wall Carbon Nanotubes," Nano Letters, xxxx, Vol. 0, pgs. A-E
	A217	Javey, Ali, "Carbon Nanotube Transistor Arrays for Multistage Complementary Logic and Ring Oscillators," Nano Letters, 2002, pgs. A-D
	A218	Robertson, John, "Section 11. Non-Crystalline Carbon, Properties and Prospects for Non-Crystalline Carbons," Journal of Non-Crystalline Solids 299-302, 2002, pgs. 798-804
	A219	Ci, Lijie, "Double Wall Carbon Nanotubes Promoted by Sulfur in a Floating Iron Catalyst CVD System," Chemical Physics Letters 359, June 13, 2002, pgs. 63-67
	A220	Gromov, A., "Purification of Carbon Nanotubes," Caramel Workshop, January 23, 2002, pgs. 1-13
	A221	Cui, Yi, "Functional Nanoscale Electronic Devices Assembled Using Silicor Nanowire Building Blocks," Science, February 2, 2001, Vol. 291, pgs. 851-853
	A222	Wang, Suhua, "Thermal Oxidation of Cu_2S Nanowires: a Template Method for the Fabrication of Mesoscopic Cu_XO ($x = 1,2$) Wires, Phys. Chem. Chem Phys., 2002, Vol. 4, pgs. 3425-3429
	A223	Untiedt, C., "Fabrication and Characterization of Metallic Nanowires," Physical Review B, July 15, 1997, Vol. 56, No. 4, pgs. 2154-2160
	A224	Marsen, Bjorn, "Fullerene-Structured Nanowires of Silicon," Physical Review B, October 15, 1999, Vol. 60, No. 16, pgs. 11593-11600
	A225	Berber, Savas, "Unusually High Thermal Conductivity of Carbon Nanotubes," Physical Review Letters, May 15, 2000, Vol. 84, No. 20, pgs. 4613-4616
XAMINER		DATE CONSIDERED A

	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682	
	IN AN APPI e several shee			Applicant SEGAL, Brent M., et al.		
Sheet	36	OF	40	Filing Date	Group Art Unit	
- Jineet		01	40	February 9, 2004	2811	

Other Documents (Including Author, Title, Date Pertinent Pages, Etc.)				
Examiner Initial	Cite			
9	A226	Yao, Zhen, "High-Field Electrical Transport in a Single-Wall Carbon Nanotubes," Physical Review Letters, March 27, 2000, Vol. 84, No. 13, pgs. 2641-2944		
	A227	Zhang, Y.F., "Liquid Phase Synethesis of Carbon Nanotubes," Physica B 323, 2002, pgs. 293-295		
	A228	Dresselhaus, M.S., "Raman Spectroscopy on One Isolated Carbon Nanotube," Physica B 323, 2002, pgs. 15-20		
	A229	Heinze, S., "Carbon Nanotubes as Schottky Barrier Transistors," Physical Review Letters, September 2, 2002, Vol. 89, No. 10, 106801-1 – 106801-4		
	A230	Fu, Qiang, "Electrodeposition of Carbon Films from Various Organic Liquids," Surface & Coatings Technology 124, 2000, pgs. 196-200		
	A231	Hernadi, K., "Reactivity of Different Kinds of Carbon During Oxidative Purification of Catalytically Prepared Carbon Nanotubes,", Solid State Ionics 141-142, 2001, pgs. 203-209		
	A232	Colomer, J. F., "Different Purification Methods of Carbon Nanotubes Produced by Catalytic Synthesis," Synthetic Metals 103, 1999, pgs. 2482- 2483		
	A233	Dalton, A.B., "A Functional Conjugated Polymer to Process, Purify and Selectively Interact with Single Wall Carbon Nanotubes," Synthetic Metals 121, 2001, pgs. 1217-1218		
	A234	Tat, Kerk Wai, "Preparation and Characterization of Cobalt/Silica Core-Shell Magnetic Nanoparticles," Dept. Chem., National University of Singapore 2000/2001, pgs.1-5		
	A235	Shipley, Microposit® XP-90104A E-Beam Resist, Preliminary Product Information, pgs. 1-2,		
	A236	Smalley, R. E., Foreword (Publication unknown), January 2001		
	A237	Dresselhaus, Mildred S., Preface (Publication unknown) January 2001		
	A238	Advanced Semiconductor Engineering, Inc., Substrate Design 420L BGA 35*35, Dwg. No. K-I-0420, 2 pages		
64	A239	Integrated Device Technology, Inc., DA Package Design, 9/25/97, 2 pages		

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not citat citation if not conformance and not considered. Include copy with	

	RMATION			Docket Number Application Number 112020.129US2 10/774,682 NAN-6		
	IN AN APF e several sho			Applicant SEGAL, Brent M., et al.		
				Filing Date	Group Art Unit	
Sheet	37	OF	40	February 9, 2004	2811	
]		

	Other Documents (Including Author, Title, Date Pertinent Pages, Etc.)					
Examiner Initial	Cite					
	A240	Integrated Device Technology, Inc. BG Package Outline, 2/18/94				
	A241	Pimenta, M.A., "Diameter dependence of the Raman D-band in isolated single-wall carbon nanotubes," Physical Review B, Vol. 64 pgs. 04140-1-04140-4				
	A242	Duan, Xiangfeng, "Nonvolatile Memory and Programmable Logic from Molecule-Gated Nanowires, Nano Letters, March 2002, pgs. 1-4				
	A243	Introduction and Historical Perspective, Chapter 1, pgs. 1-48				
	A244	Modern CMOS Technology, Chapter 2, pgs. 49-92				
	A245	Crystal Growth, Wafer Fabrication and Basic Properties of Silicon Wafers, Chapter 3, pgs. 93-149				
	A246	Kong, J., et al., "Chemical Vapor Disposition of Methane for Single-Walled Carbon Nanotubes." Chemical Physics Letters, 292, 567, 1998.				
	A247	Li., Y., et al., "Growth of Single-Walled Carbon Nanotubes from Discrete Catalytic Nanoparticles of Various Sizes." <i>The Journal of Physical Chemistry B</i> (2001); 105, 11424.				
	A248	Dai, Hongjie. "Controlled Chemical Routes to Nanotube Architectures, Physics, and Devices." <i>The Journal of Physical Chemistry B</i> (1999); 103: 11246-11255.				
·	A249	Colomer, JF., at al., "Characterization of Single-Walled Carbon Nanotubes Produced by CCVD Method." <i>Chemical Physics Letters</i> (2001); 345, 11-17.				
	A250	Li, Y. et al., "Preparation of Monodispersed Fe-Mo Nanoparticles as the Catalyst for CVD Synthesis of Carbon Nanotubes." Chem. Mater., 12. 1008, 2001.				
	A251	Cassell, A., et al., "Large Scale Synthesis of Single-Walled Carbon Nanotubes." <i>The Journal of Physical Chemistry B</i> (1999); Vol. 103, No. 22: 6484-6492.				
(ca)	A252	Cassell, A., et al., "Directed Growth of Free-Standing Single-Walled Carbon				

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or not citaticitation if not conformance and not considered. Include copy with	

	RMATION	N DISCLO		Docket Number 112020.129US2 NAN-6	Application Number 10/774,682	
		PLICATION PLICAT		Applicant SEGAL, Brent M., et al.		
				Filing Date	Group Art Unit	
Sheet 38 OF 40			40	February 9, 2004	2811	
					•	

	Other Documents (Including Author, Title, Date Pertinent Pages, Etc.)					
Examiner Initial	Cite					
6		Nanotubes." Journal of the American Chemical Society (1999); Vol. 121, 7975-7976.				
	A253	Delzeit, L., et al., "Multilayered Metal Catalysts for Controlling the Density of Single-walled Carbon Nanotube Growth." Chemical Physics Letters, 348, 368, 2001.				
	A254	Wei, Y., et al., "Effect of Catalyst Film Thickness on Carbon Nanotube Growth by Selective Area Chemical Vapor Deposition." Applied Physics Letters (2001); Vol. 78, pgs. 1394-1396.				
	A255	Su., M., et al., "A Scalable CVD Method for the Synthesis of Single-Walled Carbon Nanotubes with High Catalyst Productivity." Chemical Physics Letters (2000); Vol. 322, 231-326.				
	A256	Harutyunyan, A., et al., "CVD Synthesis of Single Wall Carbon Nanotubes under 'Soft' Conditions." <i>Nano Letters</i> Vol. 2c no 5 525 (2002); Published on web 3/27/02				
	A257	Li, Q., et al., "High-Density Growth of Single-Wall Carbon Nanotubes on Silicon by Fabrication of Nanosized Catalyst Thin Films." <i>Chem. Mater.</i> (2002), 14, 4262; Published on web 9/11/02				
	A258	Homma, Y., et al., "Growth of Suspended Carbon Nanotube Networks on 100nm-Scale Silicon Pillars." <i>Applied Physics Letters</i> . (2002); Vol. 81 No. 12, 2261-2263.				
	A259	Javey, A., et al., "Carbon Nanotube Transistor Arrays for Multistage Complementary Logic and Ring Oscillators." <i>Nano Letters</i> (2002); Vol. 2 No. 9 929-932. Published on web 7/31/02				
	A260	Kong, J., et al., "Syntheses of Individual Single-Walled carbon Nanotubes on Patterned Wafers." <i>Nature</i> (1998); 395: 878-881.				
	A261	Chen, B., et al., "Heterogeneous Single-Walled Carbon Nanotube Catalyst Discovery and Optimization." <i>Chem. Mater.</i> (2002); Vol. 14 1891-1896.				
a	A262	Yenilmez, E., et al., "Wafer Scale Production of carbon Nanotube Scanning Probe Tips for Atomic Force Microscopy." Applied Physics Letters. (2002);				
		I DAYS CONCUES S				

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation is considered, whether or n citation if not conformance and not considered. Include con	not citation is in conformance with MPEP § 609; Draw Line through

	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682	
	N AN API			SEGAL, Brent M., et al.		
				Filing Date	Group Art Unit	
Sheet 39 OF 40		40	February 9, 2004	2811		

Other Documents (Including Author, Title, Date Pertinent Pages, Etc.)						
Examiner Initial	Cite					
M		Vol. 80 No. 12, 2225-2227.				
1	A263	Peigney, A., et al., "A Study of the Formation of Single-and-Double-Walled carbon Nanotubes by a CVD Method." <i>The Journal of Physical Chemistry B</i> (2001); 105: 9699-9710.				
	A264	Franklin, N., et al., "Integration of Suspended Carbon Nanotube Arrays into Electronic Devices and Electroechanical Systems." Applied Physics Letters (2002); Vol. 81 No. 5, 913-905.				
	A265	Collins, P., et al., "Engineering Carbon Nanotubes and Nanotube Circuits Using Electrical Breakdown." Science (2001); 292: 706-709.				
	A266	Kim, W., et al., "Synthesis of Ultralong and High Percentage of Semiconduction Single-walled Carbon Nanotubes." Nano Letters (2002); Vol. 2 No. 7 703-708. Published on web 6/01/02				
	A267	Reuckes, T., et al., "Carbon Nanotube-Based Nonvolatile Random Access Memory for Molecular Computing." Science, vol. 289, 94-97, July 7, 2000				
	A268	Liu, et al., "Organizing Single-Walled Carbon Nanotubes on Gold Using a Wet Chemical Self-Assembling Technique, Langmuir," April 18, 2000, Vol. 16, No. 8, 3659-3573				
	A269	Soh, et al., "Integrated Nanotube Circuits: controlled growth and ohmic contacting of single-walled carbon nanotubes", Applied Physics Letters, August 2, 1999, Vol. 75, No. 5, 627-629				
	A270	Zheng et al, "Chemical Vapor Deposition Growth of Well-Aligned Carbon Nanotube Patterns on Cubic Mesoporous Silica Films by Soft Lithography", Chemistry of Materials, June 9, 2001, Vol. 13, 2240-2242				
(A)	A271	Huang, et al., "Patterned Growth of Well-Aligned Carbon Nanotubes: A Soft-Lithographic Approach", The Journal of Physical Chemistry B., March 16, 2000, Vol. 104, No. 10, 2193-2196				

EXAMINER	DATE CONSIDERED				
EXAMINER: Initial if citation is considered, whether or not citation is in conformance with MPEP § 609: Draw Line through citation if not conformance and not considered. Include copy with next communication to applicant.					

	RMATION			Docket Number 112020.129US2 NAN-6	Application Number 10/774,682
	N AN APF			SEGAL, Brent M., et al.	
···				Filing Date	Group Art Unit
Sheet	40	OF	40	February 9, 2004	2811
Į.					

Other Documents (Including Author, Title, Date Pertinent Pages, Etc.)					
Examiner Initial	Cite				
A272 Nanotubes in Monolayer and Mulilayer Fores		Chattopadhyay, et al., "Metal-Assisted Organization of Shortened Carbon Nanotubes in Monolayer and Mulilayer Forest Assemblies", Journal of the American Chemical Society, August 28, 2001, Vol. 123, 9451-9452			
	A273	Bonard, J. et al., "Monodisperse Multiwall Carbon Nanotubes Obtained with Ferritin as Catalyst", Nano Letters, 2002, Vol. 2, No. 6, 665-667			
	A274	Collins, P., "Engineering Carbon Nanotubes and Nanotube Circuits Using Electrical Breakdown", Science, Vol. 292, April 27, 2001, pp 706-709			
	A275	Homma, Y., "Single-Walled Carbon Nanotube Growth on Silicon Substrates Using Nanoparticle Catalysts", Jpn. J. Appl. Phys., Vol. 41 (2002), pp. L89-L91			
	A276	Snow, E.S. et al., "Random Networks of Carbon Nanotubes as an Electronic Material." Applied Physics Letters, March 31, 2003, Vol. 82, No. 13, 2145-2147.			
·	A277	Bernholc et al., "Mechanical and Electrical Properties of Nanotubes", Annu. Rev. Mater. Res., 32 (2002) 347.			
	A278	Ramsperger, U., "Fabrication and lateral electronic transport measurements of gold nanowires," Applied Physics Letters, January 1, 2001, Vol. 78, pgs. 85-87			
6	A279	Legrand, B., "Silicon nanowires with sub 10 nm lateral dimensions: From atomic force microscope lithography based fabrication to electrical measurements," J. Vac. Sci. Technol., May/June 2002, B 20(3), PGS.862-870			

EXAMINER	DATE CONSIDERED				
EXAMINER: Initial if citation is considered, whether or not citation is in conformance with MPEP § 609: Draw Line through citation if not conformance and not considered. Include copy with next communication to applicant.					